ARMY

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the ARMY in the 1960's

Full report on AUSA's Annual Meeting

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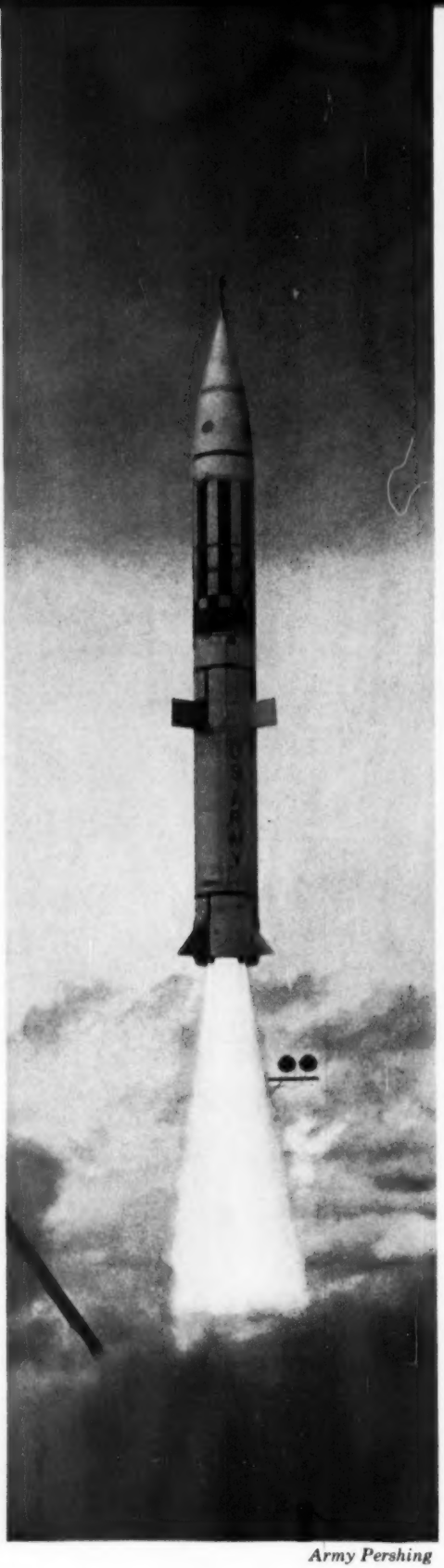
Navy & Air Force Bullpup

Air Force Mace

Army Lacrosse



Army Pershing

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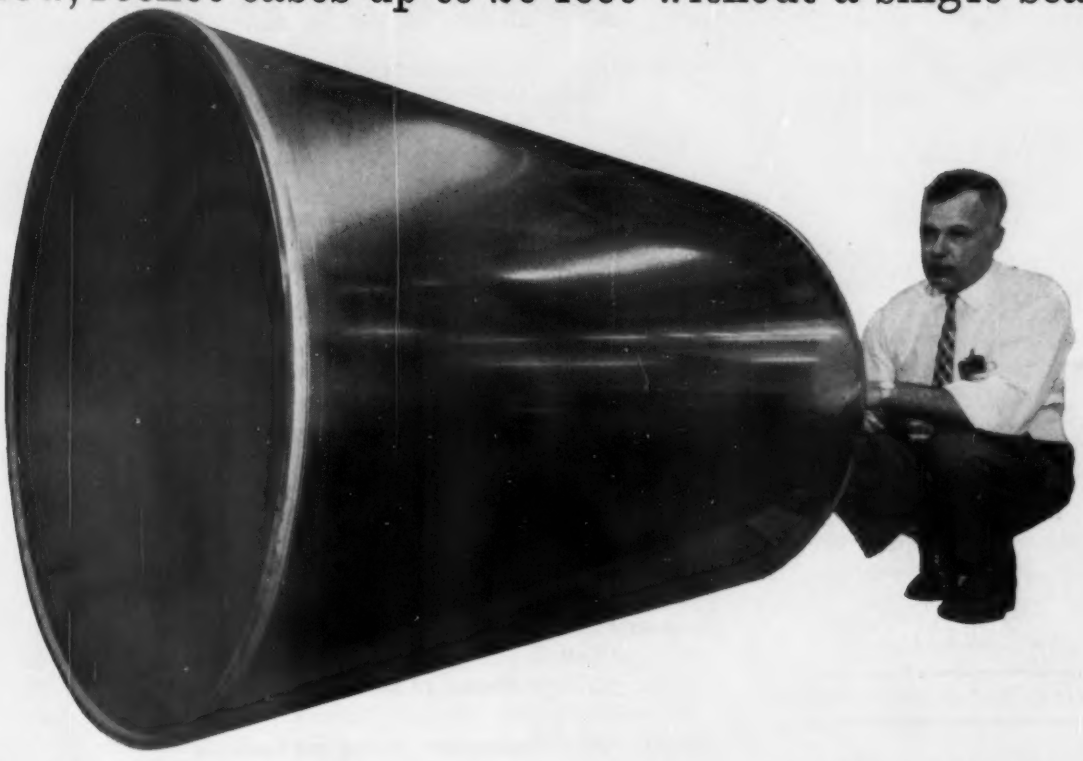

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ARMY

A PROFESSIONAL PUBLICATION DEVOTED TO THE ADVANCEMENT OF THE MILITARY ARTS AND SCIENCES AND REPRESENTING THE INTERESTS OF THE ENTIRE U. S. ARMY

This year, as in past years, ARMY presents a thorough résumé of the principal addresses and discussion panels from AUSA's Annual Meeting. For reasons of space, it is necessary to condense all addresses and discussions and also to eliminate a few. The material presented in this issue will, the Editors believe, provide the thoughtful reader with valuable information as to where the Army stands today and where it is going in the service of the nation.

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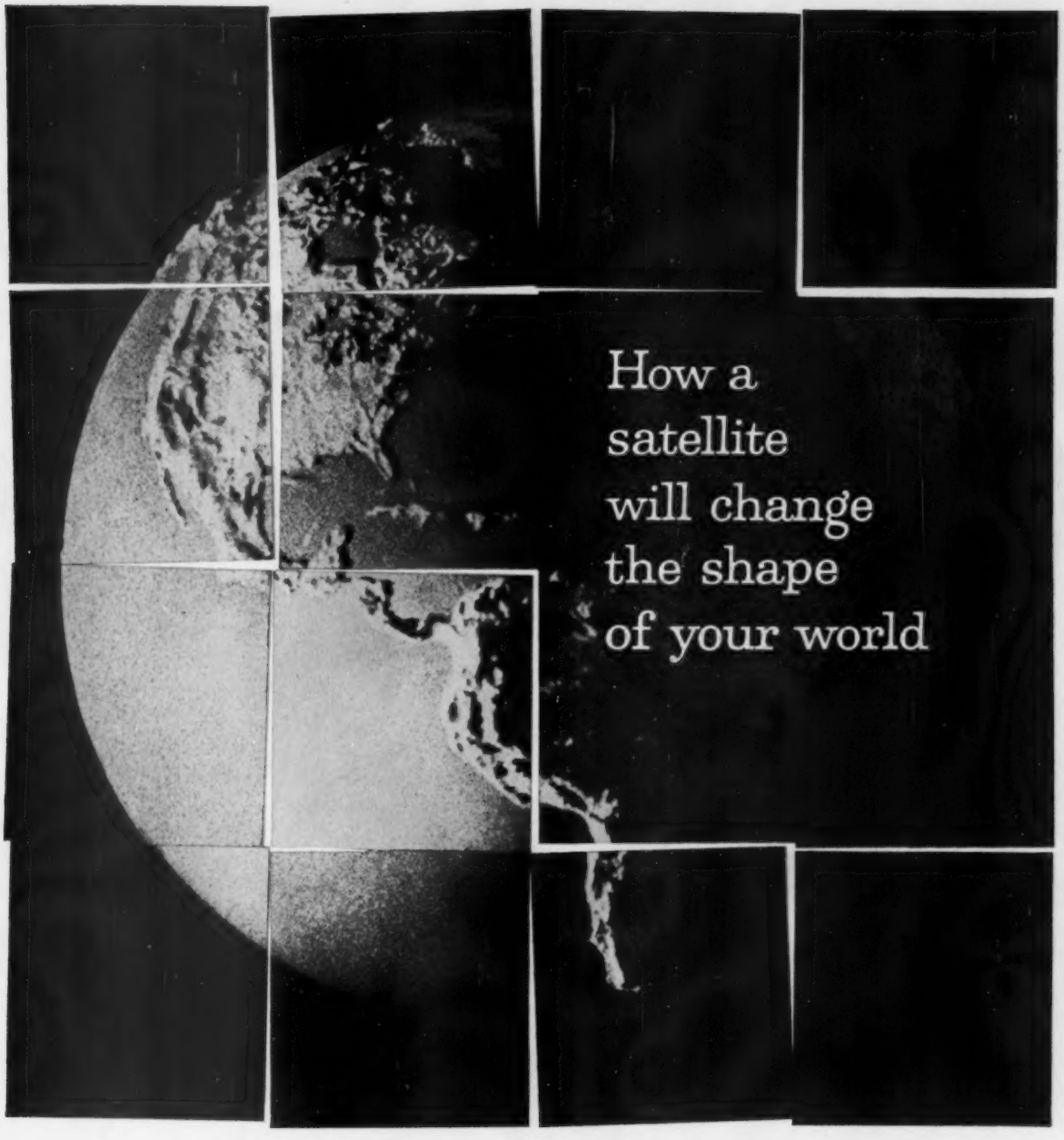

How a satellite will change the shape of your world

The "Doubting Thomas" who questions the practical value of today's space shots is answered by a growing list of useful satellites...

Just as a military need for radar helped you have TV sooner, so you can expect peacetime benefits to come from rocket and missile research.

Space probes have already revised our concept of Mother Earth's figure. Now geographers suggest maps made by camera from a cartographic satellite. It would give us the first completely accurate map of the world—a project of major value in defense.

While the map-making satellite is still to come, a rocket that can orbit it—the Douglas *Thor*—is already called "workhorse of the Space Age." It has been successful in more than 86% of its space firings. It boosted the first nose cone recovered at ICBM range, and is already deployed at NATO sites abroad. Now the Douglas *Delta*, NASA's advanced research version of *Thor*, is ready to probe even deeper into space.

A series of satellites which will add to our knowledge of the world we live in are going into orbit. The key space vehicle in this major NASA research project is *Delta*, for which Douglas is system manager and producer.

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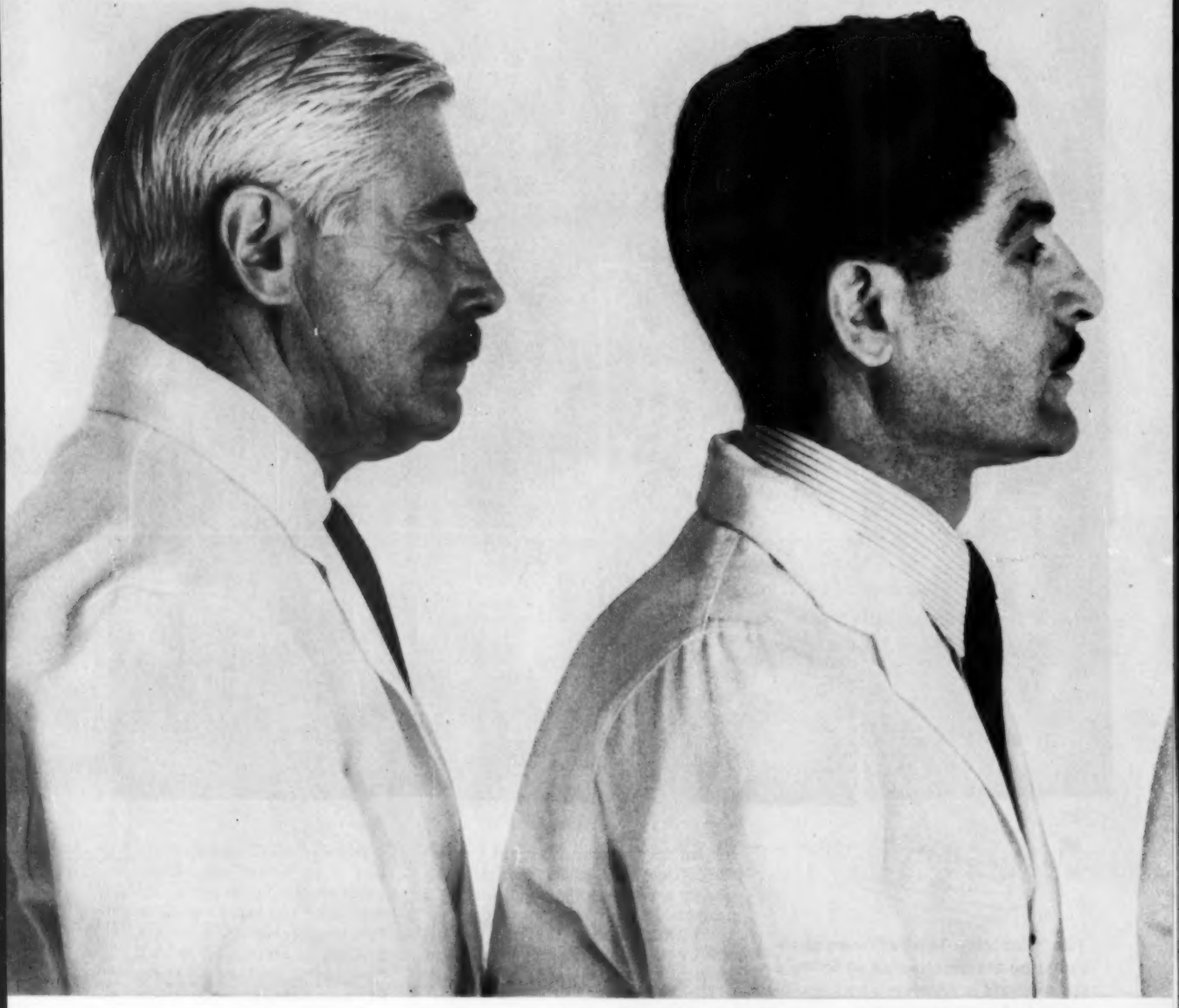
"El próximo año

$$P = \frac{A}{A\text{-}B} E_{N,A} - \frac{B}{A\text{-}B} E_{N,B} \ldots"$$



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Each of ITT's 101 plants and laboratories (a total of 136,000 employes) is, by the nature of ITT's farflung organization, a meeting place for the scientific minds of the world. Ideas pour in, rub shoulders, take off, result in: a fully automated post office in Providence, R. I. ... a multiplier tube that detected water vapor on Venus ... a

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"S'il vous plaît...

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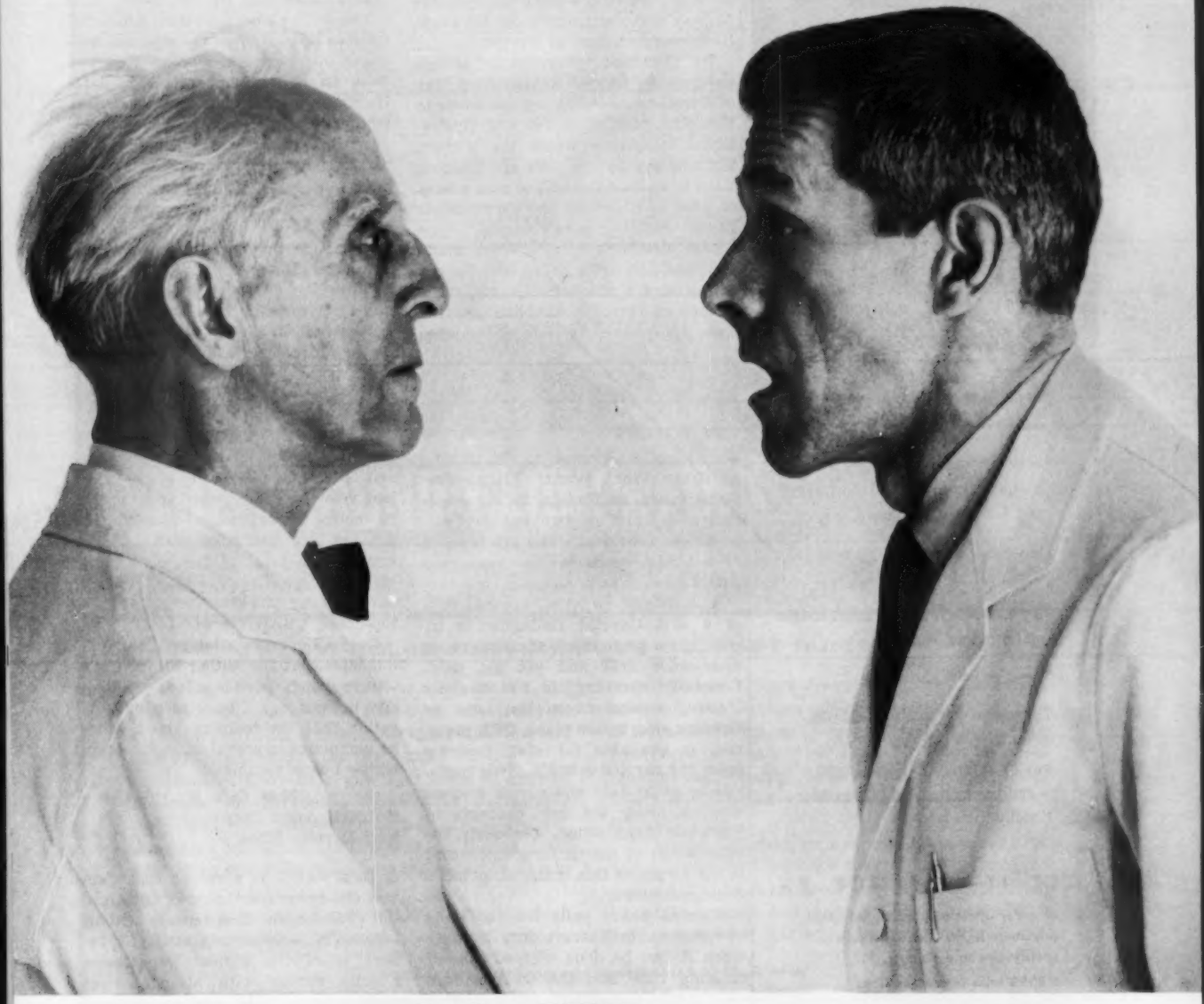
"Thank you, gentlemen.
Your experience in
your countries has been
of infinite value to us.
In a few years, I think fully
automated post offices are going
to be as American as apple π."



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ARMY letters

TARO LEAF CARRIES ON

● We in the 24th Infantry Division, now stationed again on the periphery of the free world, thank you for your superb Korea anniversary issue [June], and particularly for Sergeant Kleinman's "Truth of Taejon."

We have just celebrated the second anniversary of our Reactivation Day in Germany, rededicating ourselves to the principles of moral and professional leadership which the Victory Division symbolizes. We are training hard to sustain the will to win, a task so vital to defeating the Communists in the battle for men's minds.

Our members, coming from many divisions and units which also fought in Korea, are now collected under the banner of the 24th Division and the past symbolized by Major General William F. Dean.

MAJ. GEN. EDWIN A. WALKER
APO 112, New York, N. Y.

USAR TRAINING

● Captain Gallagher in "Marching Forth to What War?" [July] presents views so foreign to my experience as chief of two military districts for four years and commander of a USAR corps for the past year that I cannot help replying.

It is difficult to visualize what type of a unit Captain Gallagher is in, that has a platoon of officers who do close-order drill and yet get paid. Generally speaking, in the Reserve training equipment in the form of training aids, lesson plans, CPX material, is available for staff training from the service schools. This material is up to date and covers nuclear warfare using the new concepts of Pentomic organization. Obviously, the commander of the writer's unit either is not aware of this material or lacks command ability.

Current policy calls for the issue of weapons for Reserve duty training when it can be done without loss of training time and the weapons are required for scheduled training. This is USCONARC policy and should be true in the writer's unit. His comments on training films again show a lack of planned training in his unit. The use of training films as a crutch by the inefficient instructor is an unfortunate failing. There is not enough time available to the Reserve to allow extensive use of films. Each advisor and each approving headquarters should take a long, close look at any scheduled film to insure its need before approving its use.

The author's comments on extension courses appear to be thoughtless. The value of extension courses does not have to be re-argued at this date. He fails to mention that reservists can acquire the prescribed military education by attending USAR schools rather than through extension courses. Attendance at a USAR school may or may not require an extra two hours every other week. However, he objects to giving up more than two hours for Reserve activities.

Since the reservist receives a full day's pay for each two-hour drill, why is it unreasonable of the Army to expect as much as eight hours for each day's pay? He attends 48 drills per year, so the Army rightfully can expect him to devote an additional six hours for each drill as a total of approximately 280 hours to qualify himself professionally. He states that last year he was required to complete 80 hours of extension courses. He devoted two hours for each hour of credit, or a total of 160. He is still being well paid for his efforts and is not devoting the time expected of a top-notch USAR officer.

Over-all consideration of the article indicates that the author belongs to a unit in which there is a lack of integrity in training. I have seen no indication that the training about which he complains is prevalent in the corps which I now command.

MAJ. GEN. W. J. VERBECK
Hq. XIII Army Corps
Fort Devens, Mass.

● In a way it is a shame that Captain Gallagher's article was not given the prominence of a feature article, because it pertains to a subject I believe is of the utmost importance. I fully concur with his statement that our reservists need imaginative training.

When I was relieved from active duty in 1957 I had served about 12 years, 11 of them as a commissioned officer. Once I became settled in civilian life I got in touch with my local Army Reserve center and eventually was assigned to a unit. Having

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Thoroughly proved in over 2000 flights in which high speeds (over 600 mph), altitudes (nearly 60,000 ft.) and range (over 600 miles) have been achieved, the Firebee also has remarkable low-altitude performance. Repeatedly, Firebees have flown missions as low as below 700 feet, 27 miles from ground control, to draw the fire of ground-to-air missiles designed to knock out low-flying enemy planes.

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been in the Active Army that long, I had no idea of what to anticipate. I was completely unprepared for what I found.

Uniforms were way out of date (some officers continued to wear crossed sabers), training facilities and materials were about equal to our 1943 standards, films were (and are) antiquated, publications were long out-dated. But the one thing that shone through all this is the inherent desire of the Reserve officer to remain interested in the Army and keep himself up to date.

That isn't easy to do on the basis of two hours a week and two weeks each summer. It is made doubly difficult by the attitude of some advisors.

It seems high time someone began a movement to spark up the situation. The Reserves have been badly needed from World War I through Korea, and they will continue to be needed. Our nation's military concept is based on our ability to muster a trained civilian reserve.

An example of what I deplore occurred at a meeting of my Reserve unit about a year ago. The group consisted of approximately 50 officers, 80 per cent of whom were of field grade. This group had many capable

BOUNDARY LAYER BREAKTHROUGH

New BLC-130 takes off or lands in five times its own length

officers who have proved their ability in wartime. We had been assembled to see two training films. One was on the subject of how to string barbed wire. It must have been made in 1940 or 1941, because the soldiers were wearing canvas leggins and carried long bayonets. The second film was "The Late Company B," that old favorite of World War II training centers.

In talking with these officers I found very few were familiar with developments such as battle group, ROCID, ROCAD, rear area security, roentgens, 106mm recoilless rifles, Army aviation, and many other new concepts.

I think we can all learn from our friends, the Swiss. Theirs is a ready reserve indeed.

CAPT. CHARLES W. SEIFERT
Miami, Fla.

NO RIFLE

● Picture caption on page 40 of your August issue: "Rebel rifleman—give him soft shoes for stealth, 100 rounds of ammo, canteen of water, blanket and three pounds of bread and he's in business."

Question: Don't you give him a rifle?

Chevy Chase, Md. H. T. SORBEAN

INDEX TO VOLUME 10

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● *Answer: Take another look at page 40 and you'll see that he has a rifle.*

SMALL WARS AND CIVIL AFFAIRS

● Brigadier General David W. Gray has done a service in examining the tactics of small wars [July] but his analysis leaves much to be desired in applying current civil affairs doctrine and reflects what may be a disturbing weakness in the state of training of U. S. Army forces in Europe on matters pertaining to civil affairs.

General Gray's plan for a small war at the invitation of a friendly government fails to include that basic document, a civil affairs agreement. The function of coordinating civil affairs during military operations is not performed by State Department representatives, as General Gray assumed, but by the Army commander through his civil affairs staff section (G5) and his civil affairs troops.

The plan fails to utilize the government affairs, economics, public facilities, welfare, and related services of the friendly government so as to conserve the use of Army supplies and troops.

General Gray states that the commander's civil affairs staff section probably will be not too well trained and that the entire force probably will lack understanding of civil affairs activities and problems. If this reflects the state of readiness of U. S. Army forces in Europe today, immediate change is in order.

My impression from a visit to several Army headquarters and units in Germany in late 1959 is that commanders and staffs are behind the times in civil affairs doctrine and training. This deficiency has been officially recognized by the Department of the Army, and corrective action is being taken.

KARL S. LANDSTROM
National Vice President
Military Govt. Ass'n
Washington, D. C.

Imagine a 50-ton Hercules airfreighter lifting off in just 500 feet, from a standing start on an unprepared field. Or picture the big prop-jet stopping after touchdown in 520 feet. This performance of Lockheed's Boundary Layer Control C-130, at mid-point of a 2000-mile round trip mission, is truly remarkable. But its significance goes far beyond the spectacle itself.

The BLC-130 brings true STOL capability to Air Force support missions. Whether it has to rush 92 combat troops to a spreading brush-fire fight, or airlift 18 tons of food to some remote hunger spot, the huge airlifter will be able to deliver its payload closer to the action than ever before possible.

A test bed BLC-130 has completed advanced flight tests, clearly illustrating the feasibility of boundary layer control on big planes.

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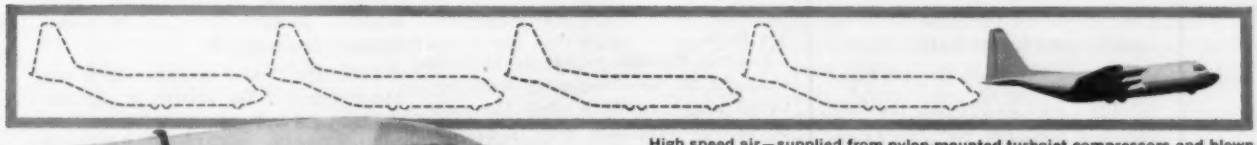
GEORGIA DIVISION MARIETTA, GEORGIA



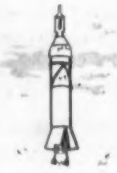
High speed air—supplied from pylon-mounted turbojet compressors and blown over flaps, ailerons, elevator, and rudder—causes the airstream to hug the surfaces instead of being separated from them. The energization of this boundary layer of air gives the BLC-130 its extraordinarily high lift.

NEW HYBRID ROCKET:

DEPENDABILITY AND CONTROL

Rocket thrust control—vital for space applications—has been demonstrated by a "hybrid" motor development with control from near-zero to full power.

Thirty-two motors have been built and fired successfully in a cooperative effort by Grand Central Rocket Co. and The Marquardt Corporation entirely on company funds.



The "hybrid" consists of a solid propellant fuel, deficient in oxidizing agent, and a liquid oxidizer under pressure, which is sprayed upon the solid material. Ignition is hypergolic. By modulating this oxidizer flow from zero to 100%, thrust can be varied over a wide range.

The hybrid provides the advantage of thrust modulation while retaining the important attributes of reliability, simplicity and lower cost inherent in a solid propellant motor.

This significant development may soon be used for orbital correction motors, retro-rockets for soft lunar landings, and to provide the limited and variable "g" forces required for space operation with human payloads.

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ARMY NURSE CORPS HISTORY

● The USA Medical Service Historical Unit, under the direction of The Surgeon General, is engaged in preparing the history of the Army Nurse Corps.

Reference material of a historical nature such as records or articles of professional and scientific significance, personal letters, journals, speeches and photographs which relate to the Army Nurse Corps are needed to highlight and augment official references.

It will be greatly appreciated if persons who possess such material will send it directly to: Director, Historical Unit, USAMEDS, Forest Glen Section, WRAMC, Washington 12, D. C.

Any material forwarded to the Historical Unit will be returned to the owner after it is duplicated. If the owner wishes, and he so indicates, the material will be retained and filed.

COL. JOHN BOYD COATES, JR.
Editor in Chief
Washington, D. C.

UNDERSTANDING THE FSCC

● After carefully reading "Combined Arms Battle Group," by Col. John D. Byrne [May], I discovered a point on which I could agree. His statement concerning the coordination of fire support, "I argue that coordination results from prior planning, which causes the allocation of certain resources to a tactical mission," is perhaps the only point in his article he need not argue. It is disappointing to find that Colonel Byrne is an artilleryman, for his gross misrepresentations of the fire support coordination center (FSCC) and its functions and his statements concerning a proposed revision of artillery techniques may receive a favorable vote from those who have not had the opportunity to learn the facts.

Colonel Byrne's article is another example all too frequently seen between major conflicts when the rush is on to originate new concepts. While the objective usually is good, as in this case, frequently the authors do not understand the roles and functions they are trying to eliminate. The usual result is to perform the function—but under a different name—all the while fooling themselves into believing a material benefit has been derived. For those who understand the role of the FSCC and its function to provide the commander with the best fire support through the coordination of all the means available, no objection can be found to its reasonable position in the commander's scheme of best controlling his combat elements. To those who do not understand its role it remains a mystical organization. Somehow this objection — often ill defined by its detractors—pictures the FSCC as trying to usurp the commander's authority. Nothing could be farther from the truth.

Further, there are those who cannot see the relationship of targets to intelligence and desire to funnel everything into the intelligence machinery, in some *direct* fashion, overlooking the need, as is the case in the artillery, to attack fleeting targets in a timely way. The artillery has always been one of the best sources of intelligence on the battlefield. The commander does not suffer for a lack of it by target information flowing through artillery channels; rather his chances of knowing the situation accurately are greatly enhanced. He has the further assurance that his combat effort is being pursued efficiently as the artillery goes about its time-honored task of providing rapid fire support to the maneuver elements.

The FSCC, when fully understood and applied as taught at the Artillery and Missile School and by experienced artillerymen in the field, will do everything proposed by Colonel Byrne. It will do it better. And it will do it without having to reorganize the current staff structure and educate the Army to the new approach. A careful examination of Colonel Byrne's "gunnery officer" concept will reveal it to be an attempt to perform the necessary fire support coordination function in disguise. Artillerymen found in the field in the capacity of fire support coordinators are those who devote their careers to the study of fire support. A commander would seriously hamper his efforts to accomplish his mission if he used an officer, however brilliant he may be in other respects, not trained in maximizing fire support.

Although I take exception to many other points in the article, in particular the unsound procedure for the flow of intelligence, the error of Colonel Byrne's fire support coordination concept deserves a word of rebuttal, lest by silence the support of all artillerymen is indicated.

Before undertaking to reorganize our units and impose questionable concepts upon their staffs, authors, with this objective in mind, should first thoroughly understand what we're doing today. To oppose change is foolish, but to propose change just for the sake of change can be disastrous.

LT. COL. DAVID E. WRIGHT, JR.
Fort Sill, Okla.

By utilizing the sun's energy, 41 G-E thermionic converters can equal power output of 1,000 batteries for one year.

MISSILE AND SPACE VEHICLE DEPARTMENT

...center for missile and space technology research and development at General Electric

Progress in power for space

Manned space flights, as well as other U.S. space projects, will require new, light-weight, long-life sources of electrical energy. Conventional batteries, now being used in missiles and satellites, are far too heavy for most future space applications.

For example, during a year's operation, one thousand 15 amp/hr batteries, similar to the one shown above, would be required to equal the 41 watts which the thermionic converters in the photo can generate from the heat of the sun. These batteries would weigh 15,000 lbs—a complete thermionic system, including the converters developed in General Electric's Research Laboratory plus a collector and orientation equipment, only about 20 lbs.

To provide such new, light-weight systems, engineers at General Electric's Missile and Space Vehicle Department are investigating a wide variety of promising space power sources, utilizing the specialized capabilities of other Company research operations. For instance, under U.S. Air Force contract, G.E. is conducting extensive research in thermionics, and is developing an experimental thermionic system consisting of a solar collector, converters, and storage and control components. Intensive work in photovoltaics includes the development of an advanced unit to provide more than 500 watts of continuous power for the Advent communications satellite.

For the U.S. Army Signal Research and Development Laboratory, a regenerative fuel cell is under development, as are magnetohydrodynamic electrical converters for the Air Force Office of Scientific Research, WADD and BMD. In addition, MSVD is investigating nuclear thermionics and nuclear turbines.

To learn more about these MSVD space power developments, write to Section 160-76, General Electric Co., Missile and Space Vehicle Department, Philadelphia 1, Penna. 160-76

GENERAL ELECTRIC

MISSILE AND SPACE VEHICLE DEPARTMENT

A Department of the Defense Electronics Division

Scientists and Engineers interested in career opportunities in Space Technology, contact Mr. T. H. Sebring, Dept. 160, MSVD

TRACKS MOVE WHERE NOTHING ELSE CAN GO

Modern concepts of battlefield tactics require a high degree of ground mobility for many new weapon systems. Whatever the requirement – missile transporter launchers – radar or communication equipment – ground support equipment – cargo vans – troop transport – all can have full mobility with one or more standard military vehicles of the new M113 family.

This family of vehicles in either armored or unarmored versions is lightweight to be airborne, amphibious to swim water barriers, tough and dependable for continuous heavy duty.

Test data is available on request concerning the shock loads transmitted to missile systems being carried under the most severe cross-country conditions.

Put your mobility questions to FMC, since 1941 a leading designer and builder of military standard vehicles.

For further information, write, wire, or phone Preliminary Design Engineering Dept., FMC Ordnance Division, P.O. Box 367, San Jose, California. Phone: CYpress 4-8124

Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION

Ordnance Division

1105 COLEMAN AVENUE, SAN JOSE, CALIF.

fmc

Illustrated below are the M113 and five vehicle adaptations of this basic tracked vehicle. All of the vehicles use the same military standard equipment, including engines, power train, and suspension components; thus reducing the military logistic burden and R&D costs in weapons systems.

M113 Armored Personnel Carrier

Radar Vehicle

Van-type Vehicle

Six-wheel-type Prime Mover

Utility Crane Vehicle

Missile Launcher

FMC's Aluminum Alloy Welding Techniques Open New Horizons for Structural Applications

Machine welding heavy aluminum armor plate in FMC's Ordnance Division's shops.

Food Machinery and Chemical Corporation's recently developed welding techniques make economical heavy aluminum weldments possible. High strength, low weight, gas and liquid tight construction are a few of the characteristics available through modern welded aluminum fabrication. These techniques are ideally suited to the construction of vehicles – landing craft, barges, containers – on an economically sound basis.

FMC's aluminum welding capabilities are the result of extensive research and development work performed in cooperation with military agencies to develop reliable, economical welding techniques for the production of the aluminum M113 Armored Personnel Carrier. Thousands of pounds of various aluminum alloys were formed, welded, machined and tested to select the best alloys and fabrication methods. Over a score of prototype M113's were then constructed and subsequently tested by military agencies to substantiate the vehicle's design and construction.

The economy realized through FMC's development of welding and fabrication techniques is an important factor... making the cost of the aluminum M113 competitive with the M59, its steel predecessor. Welding costs for this all aluminum vehicle were reduced through the use of –

Optimum joint geometry
Maximum use of welding fixtures
Maximum use of automatic plate preparation equipment
Maximum use of machine welding equipment
Maximum use of extruded shapes

These modern methods and facilities may provide the answer to your problems in procuring high performance equipment.

The new aluminum welding techniques developed for the M113 program and vehicle production, illustrates FMC's fully integrated capabilities and facilities.

ARMY front and center

Lemnitzer to Chairman, JCS

The nomination of General Lyman L. Lemnitzer, Army Chief of Staff, to replace Air Force General Nathan F. Twining as Chairman of the Joint Chiefs of Staff for a two-year term, and the subsequent nomination of General George H. Decker, Lemnitzer's Vice Chief, to Army Chief of Staff, guarantee a continuation of the moderate, but firmly aggressive policy of the Army's leaders to modernize and to improve the Army.

Anyone who hopes, however, that the present U. S. strategy would be drastically altered, with Lemnitzer as Chairman, is probably very wrong. General Lemnitzer is known to approve the present strategy of a strong, nuclear retaliatory force as a first-line defense; this, as General Lemnitzer has said, "the Army has always strongly supported." It includes a deployed Navy in both Atlantic and Pacific waters with a strong nuclear submarine and Polaris capability, continuing deployment of Army forces *in greater strength than the U. S. has today,* and a vital, well-funded mutual security program including military aid to friendly nations. If there is to be any change under his direction, General Lemnitzer will seek only a shift in emphasis of expenditures on other missions (such as a limited war capability in all three services) rather than a change in U. S. strategy.

Only ten days prior to his nomination, at the AUSA convention, the Chief of Staff had reviewed and reaffirmed the forward strategy and its needed elements (*see page 41*) which can serve as a guide line to his present thinking. Those who know him say, however, that Lemnitzer can be relied upon to speak up in the high councils of government if the situation demands changes in strategy, or equally important, changes in the military budget.

He realizes that this is a particularly testy time—just before elections and a possible change in Administration — to be assuming new duties as Chairman of the Joint Chiefs of Staff. It will be his job during October, November, and December to help the Secretary of Defense shape the Fiscal Year 1962 budget, realizing that it could be seriously altered either by the new President after 20 January, or by the new Congress. One thing is certain: there is growing concern in all military planning, including the Joint Chiefs, with the flat level of defense expenditures—around $40 billion a year—in the face of increasing inflation, and the tremendous new costs in the changeover to missile defense—in the ICBM field, the Navy Polaris field, and in the upcoming medium-range field of the Army Pershing. General Lemnitzer is especially alert to the needed increases in funding for the Army's missiles with more than 20 missile systems for ground operations now in its list.

A study of his testimony before Congress, including the questions-and-answers in the open hearing before the Senate Armed Services Committee on 20 August, when he was being examined for confirmation, indicate his views as follows:

ORGANIZATION OF THE DEFENSE DEPARTMENT. The present set-up may not be the final answer, but we should work with it just as it is for a while, on a "shakedown cruise." In General Lemnitzer's view, we can make this system work—and it would probably meet emergency wartime conditions—so long as each of the services has ample opportunity to get its views before the Secretary of Defense and in some cases, the President.

SINGLE CHIEF OF STAFF. The Air Force is enthusiastic for this, but Lemnitzer feels that this is not needed now. The quick response he makes when asked his views on this question is to inquire as to what authority the proponent would give the Chief of Staff. Would he be given final authority over budget divisions among the services? Would he be granted final say on which weapons would be given priority in each service? This usually causes pause for thought, and in the Army Chief's view, we haven't reached that stage of development, or have no need for such centralized power at this time.

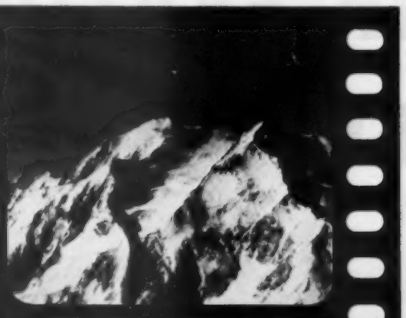
ARMY NEEDS. He has testified and signed proposals and requests for an increase in manpower—to 890,000, and at one time to 900,000. Personally, he sees a need for 925,000 men under present missions and demands on the Army, but has not been allowed to present demands for this total. General Lemnitzer is strongly for the Reserve and National Guard being maintained at a *minimum* of 700,000 in paid drill status.

He believes that the Army's modernization program demands

(Continued on page 18)

LEMNITZER

DECKER



Hiller 12 E sets aviation record, lands and picks up payload at 18,000 ft.

12 E, first light copter to erect entire powerline; 40' poles, el. 5,000 ft.

34,500 lbs. of machinery to exploration mine in 8 hrs. mountain flying.

Microwave station on 4,000' ridge; all 8 tons material; 2 days flying.

2½ mile powerline built in 6 hrs., 50 mins. with E's 305 hp at work.

El. 10,000 ft. Two 12 E's fly 80 gal. sprayloads; 60 flights in 4 hrs.

You are invited to write for full details.

THE ARMY GROWS 'EM TOUGH

How the Hiller 12 E Became First Choice of Commercial Operators

From the day it went into commercial service, the Hiller 12 E had a head start. It had an Army-proved H-23D airframe and an Army-proved H-23D drive system that hadn't begun to exploit its full strength.

The next step rewrote the specs on what light utility helicopters can do. Capitalizing on the H-23D Raven's dynamic components with a 305 hp Lycoming engine's power, light helicopter "firsts" of the kind above were bound to happen. Similar profitable operations are flown every day, wherever there's an E.

That's why the 12 E has become first choice—it's the most economical helicopter purchase today.

Designs are one thing. Deliveries another. Both come from

HILLER AIRCRAFT CORPORATION

PALO ALTO, CALIFORNIA · WASHINGTON, D.C.
Adhesive Engineering Division · San Carlos, Calif

H-23D 250 hp

12 E 305 hp

E4 320 hp

Super E 340 hp

AO-1 MOHAWK FEATURES EASY MAINTENANCE

Grumman's AO-1 Mohawk, new Army observation plane, was designed for short take-off and landing, operation from rough fields, high maneuverability, and maximum visibility for the two-man crew. Since it will live in the field with today's pentomic Army, ease of maintenance is essential . . . and here's how the Mohawk meets maintenance requirements:

1. **INTERCHANGEABILITY**—Left- and right-hand components on the Mohawk are interchangeable, including tail surfaces, engine power plant packages, landing gear.

2. **SERVICEABILITY**—Engines on the Mohawk, including accessories, can be changed with standard tools—a minimum of special tools is required. That's what you call easy serviceability!

3. **ACCESSIBILITY**—75% of the Mohawk opens up for maintenance in a matter of seconds, and this is done entirely by hand. And this is accomplished at ground level, thus eliminating aircraft stands, ladders, and other paraphernalia often unavailable in the field. That's what you call easy maintenance!

GRUMMAN MOHAWK

Grumman Aircraft Engineering Corporation, Bethpage, L. I., N.Y.

about $1 billion more per year in procurement funds for equipment. (This figure is based on facing realistically the national military budget limitations; General Lemnitzer still supports a modernization program outlined under General Taylor, of $1.6 billion a year above the present approximate $1.4 billion a year of procurement, but realizes that with the present budget guidance this is not feasible.) Is especially concerned about a vital ROTC program, including compulsory ROTC at land-grant colleges and the military schools, and feels that the Federal funds must be offered under a satisfactory plan for helping colleges with compulsory ROTC, turn out 14,000 second lieutenants a year. Foresees a role in civil defense for the active Army, the Reserves and the National Guard that is vital in case of attack on the U. S.—a role that he feels has been too long overlooked. But realizes, too, that this task must not be so fashioned that it curtails the capability of STRAC, or the Army, the Reserve, or the National Guard from carrying out combat missions or reinforcement missions in case of limited war or general war. As Chairman of the Joint Chiefs of Staff, he will see to it that both the Navy and the Air Force will plan to play civil defense roles wherever they have capabilities.

Decker to Chief of Staff, USA

General George H. Decker has been Vice Chief of Staff of the Army since 1 August 1959 when General Lemnitzer became Chief of Staff. He has a broad background of command duty. During the Second World War he was Chief of Staff of Walter Krueger's Sixth Army and more recently held important commands both in Europe and the Far East.

General Decker, a graduate of Lafayette College in Easton, Pennsylvania, is the first non-West Pointer to become Chief since General of the Army George C. Marshall. In addition to extensive command experience, he has held a unique position in the Army staff, Comptroller of the Army, which gives him a finer understanding of budgetary and administrative and logistical matters than any of his predecessors. His joint command experience both in Europe and the Far East, and his stand-in assignments for General Lemnitzer in Joint Chiefs meetings, give him a long-time experience in the Joint Chiefs area. As a team-mate for Lemnitzer, the two men see eye-to-eye on Army matters, as well as most strategic matters, so theirs should be a continuing, close continuity of effort for improvement.

He was so naturally accepted as the logical choice for Chief of Staff that when he and General Lemnitzer appeared before the Senate committee prior to confirmation, they asked General Decker only one question: "How long were you a second lieutenant?" When he answered, "For six years," one Senator stated that this was undoubtedly the reason that he had such a firm foundation for an outstanding career.

In spite of the fact that General Lemnitzer as the new Chairman of the Joint Chiefs of Staff is an Army man, General Decker realizes that he will have to sit in and fight the Army battles with as much skill and energy as any of his predecessors. In the struggle for funds—and for needed men and materials—the battle is a four-way competition, and General Decker's ability as a bridge player, poker player, and chess player—as well as his pleasant and winning personality—will get its full measure of use. He inherits all the unresolved problems that General Lemnitzer's short term as Chief of Staff have left him, and two or three real struggles in the national arena.

NATIONAL NEED FOR AN ANTI-MISSILE MISSILE is one of them. In spite of the fact that the only development in existence is the Army's Nike Zeus, the Army has not been able to convince the present administration that it is urgent enough to get it out of the research and development stage. Support from Air Force General Kuter of the North American Air Defense Command has not been able to push it "over the top."

THE MODERN ARMY NEEDS, outlined above, for at least 925,000 men, for increased procurement funds, and for an improved personnel situation for officers and enlisted men will be part of the task he will tackle. Most certainly, too, will be *an upcoming analysis and implementing* of an increased Army aviation program.

His close associates report that General Decker's views on major problems are almost identical with General Lemnitzer's. He has an especial awareness in two important strategic missions: the STRAC mission and its need for increased airlift, and deployments both logistical and combat-ready overseas; and constant pressure on research and development improvements so that the Army will have the right equipment developed and tested and ready to buy when the dollars roll in.

THE RECENTLY ANNOUNCED REORGANIZATION OF RESEARCH AND DEVELOPMENT has the full support of the Vice Chief of Staff, with many of its details drawn up by General Decker. Although some pressure was generated for a complete overhaul to include a Research and Development Command, General Decker stood for a more moderate realignment, centralizing considerable authority for research, development, testing and evaluation in the Chief of R&D, while still maintaining a strong technical services interest and operating capacity. In his view, the technical services have done a remarkable job, both in management of programs and in production of equipment for the Army, and this well-developed capability is not to be shunted aside.

General Decker has always been a keen participant in Army athletics. During his years as a lieutenant he coached and played on service football, baseball and basketball teams. In recent years he has become a better-than-average bowler and golfer. His skill with golf clubs won him the Korean amateur championship in 1958 when he was UN commander. During his tour as Chief, General Decker can be expected to encourage athletics, particularly pentathlon events, rifle marksmanship, as well as team games that increase a soldier's physical fitness.

Many times in the past the Army Chief of Staff has been given the unofficial accolade of "soldier-diplomat" or "soldier-stateman." In the case of George Decker it will undoubtedly develop to "soldier-statesman-manager," with the continuing emphasis on "soldier."

WEAPON SYSTEMS BY REPUBLIC'S MISSILE SYSTEMS DIVISION

Bridging the scientific and technical gap between military necessity and tested, proved, reliable weapon systems is the task of Republic's Missile Systems Division. Our scientists and engineers plan, direct, and supervise projects from conception to operational hardware . . . through systems synthesis and analysis, research and development, prototype fabrication, test, and production. ➤➤➤ Republic designs and builds completely integrated systems for performing vital defense functions.

Present programs include work in:

- **Air/Space Vehicles**
- **Guidance and Control Systems**
- **Infrared, Radar and Photographic Sensors**
- **Data Processing and Display Equipment**
- **Ground Support Equipment**
- **Secure Communications Links**
- **Nuclear Weapons Phenomenology**

REPUBLIC AVIATION

MISSILE SYSTEMS DIVISION

MINEOLA, LONG ISLAND, N. Y.

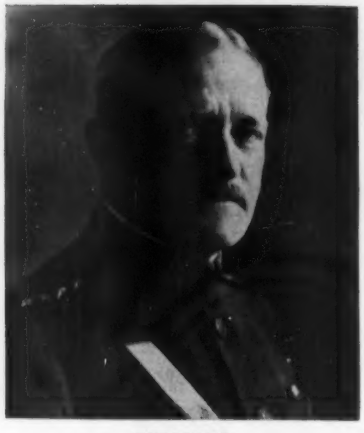
ARMY editorials

General of the Armies John J. Pershing

Newton D. Baker once observed that the one thing he couldn't understand about John J. Pershing was how a man who had such breadth of vision could become so concerned about the brass on a soldier's buttons. The answer is really simple. Pershing was the product of a versatile army. Most of us think that versatility and breadth of view are new to the U.S. Army; a necessary response to global war and the worldwide menace of Communism. This is not entirely true. As Harvey DeWeerd has pointed out, Pershing had a diversity of service before he became commander of the AEF. Pershing, DeWeerd wrote,

> served against the Indians; he taught in the Reserve Officers Training Corps at the University of Nebraska—taking a law degree at the same time. He instructed at West Point, fought in the Spanish-American War, held a post of wide responsibility in the Moro country of the Philippines, studied at the Army War College, and witnessed big-scale war in Manchuria. He went on a mission investigating European armies and led an expedition into Mexico in a state of affairs that was neither war nor peace.

A young brigadier with that kind of education and experience would be considered a singularly well equipped soldier today, just as Pershing certainly was. As for his interest in buttons, it was this obsession with the details of soldiering that made the AEF the professional fighting force it became in 1918. It was another facet of his soldierly insistence on individual marksmanship and a high standard of discipline. The significance of Pershing today, as we commemorate his 100th birthday, is that he professionalized the command and staff systems, set the Army school system on the way to becoming the finest in the world, and through example set the highest of standards for the leaders of our World War II armies and air forces. Those standards remain in force; they are the measure by which today's officers of the Army and Air Force are judged.



PERSHING

He lived the standards by which officers are measured today

MOMAR—a concept of the future

Colonel Metcalf's excellent presentation of CONARC's proposed MOMAR (Modern, Mobile Field Army, see page 55) at the AUSA annual meeting is the kind of advanced look at the future persons attending this annual get-together have come to expect. However, it shouldn't be overlooked that MOMAR is a concept of what may come about in the 1965-70 period and is not an approved program in effect now. If MOMAR comes it will be as a natural growth out of the present emphasis on the Pentomic Army. We mention this because of reports that some influential persons seemed to have jumped to the conclusion that MOMAR is an approved program.

The new Beechcraft L-23F . . .

Meeting the U. S. Army's requirement for a modern high-performance, low-cost transportation system

Already serving the U. S. Army, the versatile new Beechcraft L-23F is the latest in a long line of high-performance training and utility aircraft which Beech Aircraft Corporation has designed, developed and produced for the military services since 1932.

With supercharged fuel injection engines, the L-23F combines high altitude cruise power with exceptional short field performance, rugged durability and low operating costs to meet a wide range of needs . . . as a command liaison or personnel transport, a carrier of high-priority cargo, an aerial ambulance, or a multi-engine instrument trainer with a "big plane" feel. Designed and engineered for future pressurization and turbo-prop modification.

Beech Aerospace Division projects include R&D on manned aircraft; missile target and reconnaissance systems; complete missile systems; electronic guidance systems; programs pertaining to liquid hydrogen propellants and cryogenic tankage systems; environmental testing of missile systems and components; and GSE. May we help you? Write, wire, or phone Contract Administrator, Beech Aircraft Corp., Wichita 1, Kansas—or nearest Area Office.

Beech Aerospace Division

BEECH AIRCRAFT CORPORATION • WICHITA 1, KANSAS.

TRIBUTES TO GEORGE CATLETT MARSHALL

DWIGHT D. EISENHOWER

Please give my greetings to those attending the first annual George Catlett Marshall Memorial Dinner sponsored by the Association of the United States Army.

It is fitting that those who serve our country in the high tradition of the U. S. Army should pay tribute to a man who was a preeminent leader of it. General Marshall's devotion to the work of National Defense—his selfless adherence to the concepts of freedom and justice—is a continuing inspiration to us all. It is a privilege to join in this salute to him and to wish the Association well in all its undertakings.

Newport, R. I.

WINSTON CHURCHILL

I am happy to pay tribute to the memory of the illustrious General Marshall. In war he was as wise and understanding in counsel as he was resolute in action. In peace he played a major part in the restoration of the European economy, and laboured tirelessly to establish a system of Western defence. Posterity should remember what is owed to him, and bear in mind his qualities, his achievements and his example.

Chartwell, Westerham, Kent

HARRY S. TRUMAN

My friends—friends of General Marshall:

When I stood at the General's bier I thought—there lies a man, an honorable man, a truthful man, a man of ability. Honor has no modifying adjectives—a man has it or he hasn't. General Marshall had it.

Truth has no qualifying words to be attached to it. A man either tells the truth or he doesn't. General Marshall was the exemplification of the man of truth. Ability can be qualified. Some of us have little of it, some may have moderate ability and some men have it to the extreme. General Marshall was a man of greatest ability.

He was the greatest general since Robert E. Lee.

He was the greatest administrator since Thomas Jefferson.

He was the man of honor, the man of truth, the man of greatest ability.

He was the greatest of the great in our time.

I sincerely hope that when it comes my time to cross the great river that General Marshall will place me on his staff so that I may try to do for him what he did for me.

Independence, Mo.

Robert A. Lovett
Former Secretary of Defense

LET NO MAN FORGET HIM

IF a man is very fortunate he may have, once in a lifetime, the opportunity to work in a cause he believes in with all his heart and soul and under the leadership of a man whom he admires, respects, and comes to love. I have had that great privilege three times: once, with Henry L. Stimson and, twice, with General Marshall and, until the day I die, I will be grateful to them for letting me see, at first hand, the qualities of greatness and true leadership. Both these extraordinary men had much in common. The strengths of both stem from the fundamentals of sterling character. Both had unshakable integrity. Both were fearless of the consequences of a course of action they felt in duty bound to take. Working close to them was, therefore, a stimulating and inspiring experience, in part because their own personal standards were so high that, unless you were a hopeless clod, you had to raise your own. Service with them could not fail to refine and add balance to one's sense of values.

Since October 1959 I have wanted to share with General Marshall's old comrades in arms some memories of him and to reminisce about the little-known man, behind the serious and dignified exterior, whom the world regarded with respect, admiration and something akin to awe. The first of the Memorial Dinners seems to me to be the proper time and place to do so and to show you one or two vignettes of this remarkable man whom you honor tonight and to remind you of some of his characteristics which made him so inspiring a figure.

I have no words to express my own feeling of admiration, gratitude and affection for this noble man. Perhaps it is as well, for what could my words—or indeed, any words, add to the stature of General Marshall—Chief of Staff, General of the Army, Secretary of Defense, Secretary of State, citizen and recipient of the Nobel Peace Prize.

The whole world has recognized his magnificent accomplishments in the service of his country and the civilized world has sought to honor him. His public virtues have been extolled by the great of every country who have paid him homage and, in almost unmatched eloquence, have expressed their gratitude.

Consider, for example, the moving testimony of the value of his services to his country from the two Presidents whom he served.

President Roosevelt stated simply, "I feel I could not sleep at night with you out of the country."

President Truman, whom he served twice as Cabinet officer after his brilliant service as Chief of Staff, has called him "the organizer of victory, the greatest of the great in our time," and has said "he takes his place at the head of the greatest commanders of history."

Or, hear what his British colleagues, in the Combined Chiefs of Staff, said to him in a message on his retirement as Chief of Staff in November 1945. It is a document almost without parallel.

It reads, in part:

> On your retirement after six years as Chief of Staff of the United States Army, we, your British Colleagues in the Combined Chiefs of Staff, send you this message of farewell.
>
> We regret that Field Marshal Sir John Dill, and Admiral of the Fleet Sir Dudley Pound, two of your greatest friends and admirers, are not alive today to add their names to ours. As architect and builder of the finest and most powerful army in American history, your name will be honored among those of the greatest soldiers of your own or any other country.
>
> Throughout your association with us, in the higher direction of the Armed Forces of America and Britain, your unfailing wisdom, high principles and breadth of view have commanded the deep respect and admiration of us all. Always you have honored us by your frankness, charmed us by your courtesy, and inspired us by your singleness of purpose and your selfless devotion to our common cause. . . .

Few examples of simple gratitude surpass that brief and moving ceremony on 8 May 1945 in Secretary Stimson's office. Some of you here tonight may remember, as vividly as I do, that General Marshall was summoned to the office of the Secretary, where Mr. Stimson had invited fourteen

senior generals and his own assistants to be present. The Secretary asked General Marshall to stand beside him, facing the rest of us who were formed in any easy semicircle in front of the Secretary's desk. The Secretary, then 78 years old, took off his old-fashioned spectacles and, holding them in his hand, faced General Marshall, bowed slightly, and said:

> I want to acknowledge my great personal debt to you, sir, in common with the whole country. No one who is thinking of himself can rise to true heights. You have never thought of yourself. Seldom can a man put aside such a thing as being the Commanding General of the greatest field army in our history. This decision was made by you for wholly unselfish reasons.
>
> But you have made your position as Chief of Staff a greater one. I have never seen a task of such magnitude performed by man.
>
> It is rare late in life to make new friends; at my age, it is a slow process, but there is no one for whom I have such deep respect and, I think, greater affection. I have seen a great many soldiers in my lifetime but you, sir, are the finest soldier I have ever known.

Much has been said of General Marshall as a great public figure but not nearly enough about him as a very great human being. This is not surprising since the General permitted no intrusion into his private life, except by his government, for he treasured the brief periods of time that he had with his wife. He found solace, encouragement and refreshment of spirit in them.

So I would like tonight to speak of the warm-hearted, considerate, generous and modest man, whom many of you knew so well, and I think the General will forgive me and realize that it is a comfort to speak of those we miss.

Observing General Marshall at close range under all manner of difficult circumstances, it seems to me that his greatness stems from a number of traits and talents which have not been fully recognized or adequately mentioned. Some were exceptional gifts. His eminence in leadership, it seems to me, was a talent bestowed by a Divine Providence and heightened by use and experience, as is the case in any great talent, whatever the field.

His greatness, however, was enriched by personal traits which, like ardor, spring from the heart. He was a man of extraordinary compassion, of most sensitive and discriminating instinct, and there was an air of natural elegance about him which was unassuming and added enormously to his calm dignity. Dean Acheson, who worked closely with General Marshall over a period of years, found the precise word to describe this quality I speak of. He says, "The moment General Marshall entered a room, everyone in it felt his presence. It was a striking and communicated force."

There were two qualities which seemed to me to have had deep, perhaps even controlling, influence in lifting him to the heights of true greatness: first, his sincere concern for others; and secondly, his acceptance of change as a law of nature. Perhaps you'll permit me to explore these traits with you tonight and to draw a lesson from the second.

His concern for other people was something more than consideration or courtesy. It stemmed from a genuine interest in people and particularly those for whom he felt some responsibility. It was shown in many ways and on many occasions—some touching and a few amusing.

It comes through clear and strong and heart-warming in his attitude toward the Army which, I often thought, approximated the worried affection you see when a mother, on a street corner, with her very dear, small son beside her, sees him rather vaguely step off the curb into a street filled with speeding traffic. She reaches down, snatches him by the arm, yanks him back onto the sidewalk, hands him a resounding whack on his dumb little head and, while he howls at the top of his lungs, she bawls him out for having scared the living daylights out of her. In many things, the "Old Man"—to give him that wonderful, privately used title in the Army—felt compelled to do, there was definitely that attitude. And in it, I found comfort and delight.

But this quality of concern for others is most evident in his deep feeling for the individual soldier. We can hear the understanding and the blunt ring of strong conviction, when in his Third Biennial Report in 1945 he has this to say: "It is impossible for a nation to compensate for the services of a fighting man. There is no pay scale that is high enough to buy the service of a single soldier during even a few minutes of the agony of combat; the physical miseries of the campaign, or the extreme personal inconvenience of leaving his home to go out to the most unpleasant and dangerous spots on earth to serve his nation."

There was an incident in 1948 which, I think, is not only very revealing about many of General Marshall's traits of character but also shows a most engaging quality of President Truman. I have obtained permission to tell this story in detail.

A meeting of the Organization of the American States was scheduled to be held in Bogota, Colombia, beginning 9 April 1948, a little over a year after General Marshall had taken over the difficult job of Secretary of State, to try to reorient our foreign policy in the light of new conditions in the world.

We had been forewarned that international Communists had selected the occasion as a time

for a demonstration and that the United States and General Marshall might be used as symbols to attack. We felt some apprehension about having a substantial number of Americans attend in a mission headed by our Secretary of State.

Just before the mission took off, the General called me in and asked me if there were any last-minute matters that I wanted to take up with him. I said there were not. I then asked him if he had any final instructions for me and he said, "Yes," he had. Using his expressive hands to emphasize his points, he said something like this: "Lovett, I don't like the sound of that chest cold you've got. You've had it for a week and it doesn't seem to be getting any better. I want you to go to see a doctor right away, act on his advice, and be over it by the time I get back next week." I said, "Yes, sir," and bade him goodbye.

Not long after the start of the meeting in Bogota, a carefully planned and well-led major riot broke out, during which many of the city's buildings were burnt down and the radio stations and local phone exchange were seized by the mob. It was clear the situation was getting rapidly out of hand and concern for the safety of the United States delegation mounted. I stayed at the Department most of the night of 10-11 April and went home a little bit after three o'clock in the morning to get a couple hours' sleep, from which I was awakened by the watch officer calling to say that we had a message in, indicating that the roof of the section of the Embassy, which housed the communication and code room, had been set on fire and that the codes and equipment might have to be destroyed for security reasons. I went back to the Department and, as we were not able to maintain reliable contact by normal radio means, my apprehension grew.

It was clear from an earlier message that General Marshall was staying at a villa located in a large property about a block in size. We decided to try to get through to him by a telephone circuit which was the sole remaining method of communication. After a considerable delay we did reach the house which had been assigned to General Marshall. Jim George and Pat Carter answered the call. I asked how the General was and they said "fine"; I asked how the mission was, and they said that so far as they knew, "everything was OK; nobody had been hurt; some had had narrow escapes." I asked Carter if there was any particular danger. He said he thought not at the moment.

To my question as to how the General was getting along, he said—and this is a reasonably accurate quotation—"The Old Man is fine, he is untroubled, to tell you the truth, I think he is having more fun than he has had since he was a young lieutenant in the Philippine insurrection. A little while ago he was out in the garage instructing a young lieutenant of the Colombian Army as to how to dispose his men, telling him to bring most of them in out of the rain to shelter, where they could be warm and get some coffee, and to leave on duty only the minimum required to sound an alert if necessary, so that the others, warm and rested, could come out fighting mad and repel any attacks if needed."

Carter said "the Old Man" wanted to talk to me and in a moment or two, the General's calm voice came on the line. To the best of my recollection, the conversation went something like this: The General said, "Can you hear me, Lovett?" I said, "Yes, sir," and started to say, "General, how are you?" when he cut in with, "Lovett, how's your cold? Are you doing what I told you to do about it?"

At that point, my gaskets blew and, in a sanitized version, I said, "Holy Smoke, General, never mind about me. How are you and the delegation?"

He said, Everything's fine at the moment. We've had a little excitement down here but he felt the situation was beginning to stabilize, or would shortly; that the Colombian Government had tried to provide protection, which he thought was going to be adequate but that the riot was going to pretty well break up the meeting unless other delegations could be assured of being evacuated if necessary. I asked him what we could do to be helpful and told him the President had instructed me to tell him that he could have anything he wanted to insure the safety of the delegation or for any other purpose.

General Marshall said he thought that the meeting could be held together if positive assurance of air transportation could be given. He said at last report the government still held the airfield and that he felt that some troop-carrier planes of a squadron from the Panama Canal Zone would do the job if they could be held on alert in Panama subject to his call. I asked him if he needed any particular supplies, emphasizing the word "supplies" in such a manner as to make me feel sure he realized that I meant small arms or other defensive equipment. The General said, No, all he wanted was a gross of candles, some evaporated milk, some karo syrup, and several thousand ponchos. I remember hanging onto the desk while I digested this weird list and wondering who was going to hold a taffy-pull at night in a rainstorm. I said that I would see about having them flown in at once with some emergency rations from the Canal Zone.

It was a little after seven o'clock in the morning by now and I called the White House operator and asked her to try to locate the Secretary of the Army at his residence in Washington. She reported shortly that he was out of town on an

inspection trip. I then tried the Chief of Staff of the Army, who was away on official business at some Army post. The operator was then asked to try to get hold of the Deputy Chief of Staff.

I was feeling a bit frustrated by this time and, in a rather self-pitying voice, I said to the operator, "Good gosh, isn't there anybody in Washington on this bright April morning except you and me?" The reply came promptly back, "Yes, Mr. Secretary, President Truman is here. Would you like to speak to him?" I said, "Isn't it a bit early?" and the answer was, "No, he has been up over an hour; I'll see if he's available to take the call."

In a moment President Truman's voice came on the phone and he said, "What's the news, Bob?" I gave him the reassuring report from General Marshall about our delegation and included a report on the request for supplies. The President asked what I was doing about getting them down to him promptly. I told him that I was having a little trouble digging out someone early on Sunday morning who could issue the necessary authorities to the Commanding General in the Panama Canal Zone to make delivery of the requested supplies. He said, "Well, Bob, you've found him." Rather startled, I said, "I beg your pardon, sir"—and heard laughter from the other end of the line, followed by the question, "Have you forgotten that the President is also the Commander in Chief?" I said I was sorry that I had for the moment, and the President said that a heck of a lot of other people around town had, too, with less excuse than I had. He then asked me to tell him what General Marshall had requested. I read him the list and said, "Mr. President, have I your authority to send a message to General Crittenberger and tell him that you have approved the shipment of these items immediately?" He said, "No, I'll call him on the phone myself and tell him that I want them shipped at once and to have those troop carriers warmed up and ready to go on General Marshall's call." The President called back in about twenty minutes and said that he had talked with General Crittenberger and that everything was being taken care of.

My embarrassment at the episode with the President was eased by two things: the President never told on me and our people got home safely. But my curiosity about the ponchos almost killed me until I got the story from Carter and George. It appears that the Colombian troops came up from the jungle heat to the high altitude of Bogota, with the temperaure about fifty, in thin cotton uniforms and the General realized that standing around in the drizzle and cold would make them miserable and, therefore, not as reliable in facing a mob if they could be dry and warm. The ponchos were issued, the troops were enthusiastic about them, and the delegations got on with the business as soon as they knew they could be airlifted out if necessary.

If you will reflect on this incident a moment, you will recognize that calm, steadfastness, instinct about a soldier's needs and concern for them, in addition to ability to inspire confidence turned something that might have been a shameful disaster into a minor, irritating event.

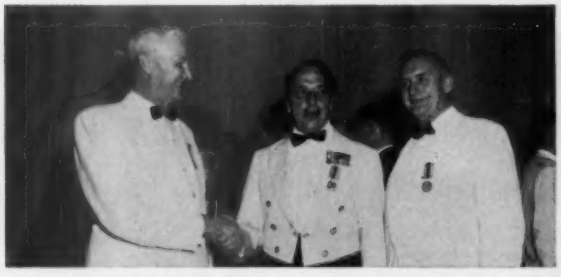
I MENTIONED earlier that one of General Marshall's most unusual attributes—and one, I think, which added a great deal to his stature—was his recognition of the fact that Nature never stands still and that change is, indeed, one of the primary laws of life. His receptiveness to new ideas, which you have seen, for example, in the use of airpower and in the Marshall Plan, was made easier by this philosophy, for he was not burdened with the attitude of mind which regards any change as a threat to the established order—or vested rights, if you choose—which must, therefore, be automatically, even blindly resisted.

About six months ago I testified before a Senate committee regarding policy-making machinery in the special field of the Department of Defense. I expressed the opinion that the essential military attribute of close relationship between planning and operational responsibility existed and that proved operations machinery was currently in being; and, finally, that the departments were staffed, for the most part, with competent, specially trained officers whom we were fortunate to have in good supply. I suggested, however, that it seemed to be increasingly difficult to fit new feet into old boots; that there was, I thought, excessive staff layering and, obviously, far too many committees with the resultant trend toward a reduction in the authority of the individual which I greatly deplored.

It may be that I place too much importance on men and not enough on the machine. I do not think so. But it is of no consequence anyway because events in the world are building up forces which will inevitably raise again the question of the proper organization of the services to meet the new situations which face us. The world is full of dangers, and the attitude toward change will be even more important, than in the past.

Wherever you look in the world today, you find one great common denominator—the increasing role government is playing in every aspect of every man's life, everywhere. We do not like to admit it, but government is getting bigger all the time—partly because big government is necessary to deal with big labor and big business; partly because our people are asking the government to do more for them each year; and, partly

Top AUSA awards presented during the General George C. Marshall Memorial Dinner. Mr. Robert A. Lovett *(above)* receives the first General George C. Marshall Memorial Medal for selfless service to the United States. General Lemnitzer *(below)*, recipient of AUSA's President's Medal for service to the Army, greets Brigadier General William J. Sutton, San Antonio, Texas, who was awarded President's Medal for service to AUSA during the past year. Looking on is Mayor Maxwell N. Brown, Enterprise, Ala., winner of the 1959 President's Medal for service to AUSA.



because government by its very nature is a glandular grower.

Now, to oversimplify things a bit, this means more government expenses. More government expenditures mean more taxes; or more economy and efficiency; or a mixture of both. Looking at the problem of national security with such calmness as I can muster, I cannot avoid the conclusion that world change has overtaken us and that, in a relatively few years, economic pressure alone will force us to reexamine our current organization and procedures.

When that time comes, and I think it will come sooner rather than later, we will need the detached approach to the problem of what is best for national security that General Marshall exemplified and which won him universal respect. National security seems to me to be more complex than ever. I feel it is a problem we will have with us for generations to come and it is not helped in an open society by either an open mouth or a closed mind.

It will most certainly not be solved by trotting out those tired old slogans of warnings about "reduction of civilian control" and the "man on horseback" that have been used to divert attention for generations. When you hear them just remember that the chiefs of the branches of the Army used the same "man on horseback" argument against Secretary Elihu Root's reorganization plan which established the position of Chief of Staff of the Army.

Nor is the problem likely to be solved by appointing several committees of distinguished citizens from remote walks of life. Such groups normally come to Washington ignorant of the problems and ways of government and, by dint of concentration on committee procedures, remain in that happy state. Some may even be attracted by the title "ad hoc committee" little realizing that it is merely a device used ad infinitum to obtain snap judgments ad nauseam.

Having spoken in behalf of receptiveness to good new ideas or changes for the better, let me identify an area in which I hope you will permit no change to occur. Part of my inheritance from General Marshall is a feeling of real affection and admiration for the Army and the way it performs its manifold duties. The great traditions, which are handed down from generation to generation in the armed services, of Duty, Honor, Loyalty and dedication to the service of one's country are among the most admirable virtues of mankind. These have been kept alive by a dedicated and skilled group of officers who realize that self-discipline is one of the higher attributes of man. We simply cannot afford to lose these virtues. Our great schools and their standards must be nurtured and strengthened so that the code of excellence may be carried forward in a world which seems to have an increasing taste for the mediocre.

My strong conviction about this results from my experience with you, of which I am proud, and because it was these traditions, training and discipline, which I have just mentioned, that produced the young Army officer who became one of the greatest leaders and greatest men of his time.

Since I spoke at the outset of certain basic characteristics shared by General Marshall and Secretary Stimson, it is fitting and proper, I believe, that I should close my comments by letting the venerable and distinguished Secretary of War be heard again, through me, in his valedictory remarks made at a press conference in September 1945.

Hear Mr. Stimson's words: "General Marshall's devotion to the nation he served was a vital quality which infused everything he does. During the course of a long lifetime, much of it spent in positions of public trust, I have had considerable experience of men in government. General Marshall has given me a new gauge of what such service should be. The destiny of America at the critical time of its national existence has been in the hands of a great and good citizen. Let no man forget it."

Pikes Peak Chapter. Outstanding chapter award for largest overall membership in 1959-60, received by M/Sgt. G. A. Rein; also award for best chapter programs.

24th Victory Division Chapter. Outstanding chapter award for greatest percentage increase in membership, received by M/Sgt. W. C. Vann and S/Maj. C. D. Kendrick.

Great Plains Chapter. Outstanding chapter award for being most active in pursuit of AUSA objectives, received by Mr. R. G. Gibbons.

Braxton Bragg Chapter. Outstanding chapter award for telling the Army story, received by Maj. Gen. Dwight E. Beach.

AUSA AWARD WINNERS HONORED AT ANNUAL MEETING

President Baker presents Certificates to chapters and individuals for services to Army and AUSA in 1960

Pictures of those presented AUSA President's Medal appear on page 27. Not pictured here is Mr. F. J. Buckley who received for the Greater Los Angeles Chapter its award for presenting the best single chapter program during 1959-60.

Indiana Chapter. Outstanding chapter award for best overall publicity program during 1959-60, received by Maj. Walter J. Schuchmann.

Washington State Chapter No. 1. Outstanding chapter award for best membership participation, received by Mr. Ray W. Clark.

William Penn Chapter. Certificate of Appreciation for outstanding one-day program, received by Mr. I. T. Shapiro.

Dr. Cloyd H. Marvin, Washington, D. C. Certificate of Appreciation for service to the Army.

Sam L. Latimer, Jr., Columbia, S. C. Certificate of Appreciation for service to the Army.

Robert L. Gray, Fayetteville, N. C. Certificate of Appreciation for service to the Army.

Benjamin H. Swig, San Francisco, Calif. Certificate of Appreciation for service to the Army.

M/Sgt. Robert J. McDonald, Fort Knox, Ky. Certificate of Appreciation for service to the Association of the U. S. Army.

Maynard R. Ashworth, Columbus, Ga. Certificate of Appreciation for service to the Association of the U. S. Army.

Ernest L. Massei, Jr., Fayetteville, N. C. Certificate of Achievement for outstanding service to the Association of the U. S. Army.

Charles S. Stevenson, Kansas City, Mo. Certificate of Achievement for outstanding service to the U. S. Army.

Dr. Raymond L. Garthoff
Author and lecturer on Soviet Affairs

THE SOVIET CHALLENGE

WHY, one may ask, do we need a talk on the subject of The Soviet Challenge? Cannot one say it in a single sentence: the Communists are dangerous double-dealers with growing nuclear missile power who are out for world domination. This is true. But it is far from being an adequate depiction of the threat, and of the challenge. I'm sure that I won't be able to answer all the relevant questions, but I shall try to answer some, and to ask some others that need raising.

Let us begin by clarifying the aims of Soviet policy. World communism is the ultimate goal of the Soviet leaders, in the sense of their aspiration. In furtherance of this aspiration they seek to expand their influence and power beyond the Communist bloc. But they also give primary attention to maintaining the security and power of the Soviet state.

This statement of the Soviet objective has a number of significant implications. First, it means that the Soviet leaders have decided that deliberate initiation of general war would not be in their interest in the foreseeable future. Secondly, it means that the Soviet Union will seek to avoid serious risk of general war. Thirdly, it means that the Soviets will continue to pursue a policy of expansion of their influence and power by means short of major war. They will probably continue to attempt to identify themselves with ideals such as peace, disarmament, national liberation, and the like—ideals widely held in the world. Finally, it is nonetheless true that within this general policy they will be alert to exploit counterdeterrence (that is, the neutralization of our deterrent for certain local challenges) when they consider the risks to be low.

While generally avoiding a belligerent posture, the Soviets will surely not be bashful about advertising their growing power, and we may expect a continuation of boldly insinuated threats whenever they consider it appropriate. They may even come to decide upon deliberate initiation of limited wars in cases where indirect aggression could be masked to lull those in the world who are prone to overlook all but the most blatant Communist aggression—though probably not limited wars in the classical sense of open armed invasions.

Mutual deterrence has already resulted from the acquistion of global thermonuclear striking power by the United States and now by the Soviet Union. Mutual deterrence has been described as a "delicate balance of terror." But while this balance is indeed insecure, and by no means inevitably enduring, it is not fragile. The risks and consequences of a global thermonuclear holocaust are recognized by the Soviet leaders, and they strive to avoid any "adventurist" gamble. The importance in Soviet policy of the over-all balance of power, the "relation of forces in the world arena" as they call it, militates against a pre-occupation with purely military solutions. The Soviet leaders are not poised to unleash the terrible might of their—and our—military power as soon as a theoretical probability of military victory crosses some calibrated balance of 50 percent or 70 percent or indeed even 90 percent. In the Communist view, history cannot be made hostage to the mathematical computations of some "communivac."

Thus total nuclear war—though not necessarily other, limited, forms of war—seems ever less likely as a rational tool for the Soviet Union to advance its position. Of course, an irrational decision is always conceivable. But more dangerous, because more probable, is the possibility of a "war by miscalculation."

IN view of the Soviet preference and intention for expansion of power by essentially political means, what is the role of military strategy?

"The objective of military strategy," we read in a secret Soviet General Staff organ, "is the creation by military means of those conditions under which politics is in a position to achieve the aims it sets for itself." As we have noted, under contemporary circumstances the Soviets see little margin for general war in this context. But before examining other applications of military power, let us review the military concept for general war.

The Soviet strategic concept may be directly influenced by the acquisitive aims of Communist imperialism. Soviet political and police techniques could be expected to refashion the will of the population and exploit conquered economic resources, once the enemy's armed forces had been destroyed. And this the Soviets would much prefer to the inheritance of large acreage of radioactive rubble. Admittedly, this consideration would be less relevant in a desperate struggle for survival.

The Soviet strategic concept, in the thermonuclear era much as before, continues to rest on the belief that the primary, direct objective of military operations is the destruction of hostile military forces, rather than the annihilation of the economic and population resources of the enemy. Urban targets, as the Soviets even admit, would also be subjected to attack. But the fundamental strategic concept remains the decisive destruction of opposing military forces and the seizure by occupation of the enemy's territories.

In keeping with this strategic concept, Soviet military doctrine holds necessary the coordinated use of any form of military power, as expedient. This presupposes a military establishment which allows for flexibility in selecting military means. It is reflected in Soviet acceptance of the principle of balanced and varied military capabilities, and in the rejection of any strategy based upon predominant reliance on any particular weapons system—including the ICBM. This principle is deeply ingrained in the Communist precept to avoid "adventuristic gambling" on any single or superficially "easy" means to victory. Moreover, in evaluating the forces needed to implement their strategic concept, the Soviet military leaders see requirements to neutralize enemy missiles and bombers thousands of miles away, and at the same time to overcome infantrymen and tanks in all the vast reaches of Eurasia beyond the borders of the Sino-Soviet bloc. To meet these requirements, the Soviets do not consider that nuclear striking capabilities suffice. Victory, in their view, requires defeating the enemy's military forces in order to seize and occupy vast areas of land—and in the last analysis only a ground force can do this. Indeed, the Soviets believe that in a nuclear war this need may be even greater.

THE Soviets do not subscribe to the view that mutual devastation spells mutual defeat. Soviet mobilization and dispatch of ground forces would in their view be much less critically disrupted than would ours by the initial and continuing nuclear exchange, due to their larger force-in-being and to its deployment. The mutual destruction of strategic air bases and cities would presumably consume the major part of the respective long-range bomber and missile forces, and the Soviets evidently calculate that the continued efforts of these forces would in a strategic sense cancel each other out. The remaining Soviet armies are viewed as still able to defeat the proportionately weakened enemy forces on the ground. Thus the Soviets hope they could go on to win by occupying the Eurasian continent and shrinking the Free World to a devasted America. But this does not mean that the Soviet leaders are so certain of success, and so indifferent to costs and risks, that they would launch a general war in the foreseeable future.

The Soviets tend in their published writings to discount or deny the possibility of local and limited wars, particularly limited nuclear war. But there are good reasons to doubt that such statements represent the real Soviet view or foreshadow future Soviet behavior. They want to deter the United States from initiating such wars, from preparing defensively for them, and from bracing our diplomatic stand by consideration of them as a recourse. In seeking to maneuver the U. S. into positions of choice between massive but mutual retaliation, or no effective response at all, the Soviets seek to deprive us of confidence that we have the alternative of limited nuclear reaction. But actual future Soviet initiative or response will be based on calculations of risk and gain. Limited wars, indeed, represent the classic form of Communist limited military action, for limited objectives, and at limited risk. But this should not be taken as meaning that the Soviet line is likely to swerve from its general line of "peaceful" political extension of influence throughout the world.

LET us now turn to brief but important reflection on the forces and capabilities envisaged and created in support of the Soviet strategy. We need review in no detail the inventory of Soviet military power. The general facts are well known: an emerging ICBM capability, a large ground army, equipped with excellent, modern materiel; tactical, airlift, and naval supporting air forces as well as enhanced air defense and long-range striking power; and in the navy a moderate conventional surface force and a very large submarine fleet.

Khrushchev announced in January of this year a plan to reduce the manpower of the Soviet armed forces by one third over the next year or so and to alter the force structure of the military establishment. The Soviets have evidently judged that even with this cutback they will still have an adequate military force to meet the requirements for the coming years: a strong and growing nuclear-missile deterrent and "counterdeterrent" to the U. S. strategic delivery capability,

a strong home air defense force, a submarine missile and ocean-attack navy, and a powerful ground force capable of providing superiority in any limited wars, and able both to move at once and simultaneously to form the core for large-scale mobilization in case of general war. The main point of interest is the highly significant fact that the nature, size, composition, organization and deployment of the Soviet armed forces *all* reflect very clearly the Soviet strategic concept and doctrine. The Soviet view of extended campaigns even in general war, in addition to being reflected in military doctrinal writings, is supported by the corresponding Soviet capabilities.

Khrushchev's speech on reduction in forces actually represents a major policy decision by the Soviet government, reflecting their view that war is not expected in the years ahead. Even on the very policy and doctrinal grounds advanced by his military advisers. Khrushchev has evidently been able to insist that the ground forces, air forces, and surface fleet could nonetheless be pared sharply without adversely shifting the general balance vis-a-vis comparable Western forces. However, it is an oversimplification to conclude that the Soviets are now adopting a "New Look" policy. The indications are that Khrushchev is thinking primarily of substituting missiles for weapons systems which they can replace—manned bombers, fighters, fire support surface ships, and some artillery. They do not replace components which perform a different and complementary function which the Soviets consider still essential in case of war: seizure and holding of territories.

In building the military capabilities to implement their strategic concept, the Soviets have been guided not by replacement of the capacities for conventional warfare, but by the addition to them of capacities for either general or limited nuclear war.

I SHOULD like now to turn to some direct implications of the Soviet challenge. Perhaps first of all we should place the need for looking at the over-all and long-run nature of the Soviet threat. It is not just the danger that they might try to liquidate us by an ICBM attack, awesome as that threat is. For if we do continue to deter this danger we are still only buying time, time which may or may not be running in our favor. We must make the great efforts necessary to develop an effective and stable (although not stagnant) political, psychological, economic and military situation in the world which will undercut the full gamut of Communist efforts to spread their influence. At the same time, we must not only counter Communist penetration, but also positively contribute to realizing all the bountiful potentialities of our own life.

Mutual ability of each side virtually to destroy the other, no matter who strikes first, is coming upon us. Even before such a state is reached, by the mid-1960s if not sooner, in fact mutual deterrence or strategic stalemate is for all practical purposes here already.

The Soviet Union seeks to take advantage of this strategic nuclear stalemate to pursue more actively policies to her advantage and contrary to the interests of the Free World. If the United States were to have a national strategy and a corresponding military and political capability primed only to deter the enemy from total war by threat of total—but mutual—destruction, the Soviets may calculate that for lesser provocation than direct attack upon the United States the total retaliation will not be made. A deterrent must be credible, and whether correctly or not, the Soviets may not always believe we would subject the United States to nuclear devastation to save a distant ally. A choice between piecemeal surrender of individually nonessential friends, barriers, and redoubts overseas, or invocation of a suicidal strategy of massive annihilation, would be a terrible dilemma indeed.

A military policy and posture is needed which provides for reliance upon local use of nuclear weapons or of conventional forces, depending upon the concrete circumstances, to meet local aggression and provocation. Moreover, the Communists will seek to obscure the political foundation for our response by having prepared the ground politically so that an aggression is not clear cut, but appears as a civil war or in some other guise.

AMERICAN strategy today is in transition from reliance on massive retaliation to recognition of the need for more varied responses to the varied threats that face us. We are learning that balanced forces—not as an even cutting of the budget pie, but in the sense of a balance between capabilities and requirements—is an indisputable axiom and an indispensable policy. We are learning that strategy must relate the employment of military power, in any form, to the pursuit of political objectives. We are learning that the nature of the threat is highly important in determining the respone. We are learning that even mutual deterrence requires us to provide a high degree of invulnerability for our strategic retaliatory forces. We are learning that we must consider requirements for effectively waging limited wars in cases of miscalculation where deterrence may fail. Finally, we are learning that strategy must be a means of achieving objectives of policy rather than merely the product of weapons development and budgetary constraint.

General Hans Speidel
Commander, Allied Land Forces,
Central Europe

MISSION AND NEEDS OF NATO'S SHIELD

I HAVE long known of the Association of the United States Army and of your worthy principles and your objectives. I know, too, of the great importance of the Association and of the contribution you have made to your country's military establishments—especially to the ground forces—the Army. And in pressing for your objectives and the strengthening of your forces you have shown the way to your Allies all over the world. I speak especially for those of us in Europe—specifically in our NATO Alliance.

The Summit Conference failed, the disarmament talks have ceased. Now, the West must recognize that the true Soviet intentions have once again been disclosed—quite forcefully and violently. From this we must learn again the basic lesson—there can be no relaxation of our defense posture and of our awareness of the Soviet threat! If these so-called failures of negotiations have done nothing else, they must serve to strengthen the unity of the West.

With regard to the disarmament talks, aside from their propaganda value to the Soviets and the possibility that the West will let down its guard a bit, there is one factor which we should not overlook. The Russians were badly hurt in World War II and one of the most significant points is the fact that their wartime and immediate postwar birth rate was at a very low level. From information available, it is estimated that they can call up no more than 600,000 conscripts for military service in the years 1963 and 1964.

As I say, this is significant and of course it points up one reason for the Soviets continuing the disarmament talks as long as they did. If they could have brought about a reduction in the forces of the West—especially during the critical period for them—they would have insured their present superiority in the conventional sphere.

One of their primary targets in the reduction of forces was, of course, the Bundeswehr. This is only natural for they know full well that any delay or any downward revision in strength of the German Army or any demilitarization efforts weakens the shield forces in vital and specific areas. They would like nothing better than this.

And in all these disarmament talks we must not lose sight of the fact that there is an ominous threat and a great potential in the Eastern bloc's quasi-military forces and their reserves. I refer for example to the so-called SED battle groups in the Soviet-occupied zone of Germany. We in the West have no such forces. So far as reserves are concerned, here again we must not forget that the Soviets and their satellites have ample reserves of trained men and what is equally important they have the weapons and equipment to mobilize the formations at any time. And when we speak of time, let us also not forget that the element of surprise is left to the Soviets!

I need not remind you that the primary aim of the Soviets remains the removal of American bases and the withdrawal of the American divisions from Central Europe.

THE Seventh U. S. Army in Germany, under my tactical and operational command, with its high state of training and the exemplary morale of its divisions is one of the keystones in the defense of Central Europe. You can understand that the Soviets wish its withdrawal from Central Europe.

The conditions which ten years ago caused the creation of NATO remain unchanged. The political maneuvers of the Soviets must not disguise the fact that the danger has not diminished.

Let us now examine the threat from the East.

In their strategic concept, the Soviets profess the view that modern weapons of mass destruction with intercontinental capabilities will not shorten a future war, but, on the contrary, will widen it in area and increase its duration. The Soviets believe in a war of this kind, which would probably begin with lightning blows and then could continue as a tough and long-drawn-out struggle, the strength, the determination and the support of an army would become of decisive importance. Thus in the atomic age only the destruction of enemy forces and the occupation

of enemy territory would lead to final success.

That is why the Soviets refuse to increase their strategic nuclear weapons at the expense of conventional forces and why they continue the integration of all means of war in one balanced army that can fight both a nuclear and a conventional war.

The Soviets have at their disposal today a striking power which reflects their experiences in the last wars as well as the rapid developments of science. Their doctrines of command, tactics and strategy and the equipment and organization of their troops have profited from these experiences and developments. They have not allowed themselves to be seduced by technical super-weapons but are holding on to their irreplaceable conventional forces, which they know are indispensable even in a nuclear war.

These views are taken into consideration by the Soviet tactical reasoning.

THE Soviet tactical concept has been developed from the German basic command concept. This has been modernized by the Russians and adapted to the atomic battlefield. The basic military principle is the attack. Speed is decisive. The aim of the attack is the destruction of the enemy and above all of his reserves in depth. Attacks will be pressed along lines of advance. Any lack of flank protection will be accepted and chances will be taken. The intervals between the lines of attack will probably be covered by atomic strikes. The mopping-up of remaining resistance will be left to formations following the striking forces. The attack will take place primarily from the move; troop concentrations will be exceptional even for river crossings. It is no longer essential that the attacker have superiority over the defender—three or four to one was formerly considered desirable. Fire power will make up the difference. Strong reserves will remain in the hands of the commander.

The leader of the attack will be the armor formations completely supported by all essential arms—conventional infantry will be in the follow-up position. The battle will continue at night and with no reduction in intensity. Minimizing the effect of our atomic strikes will be attempted by: keeping in close contact with opposing forces; widely dispersed assembly areas for attacking formations; if required, rapid concentration by several advancing columns on converging lines of advance; the shortening of all halts; at longer halts basically all soldiers, all weapons and all equipment will be dug in.

Along the Central European front, the Russians have 20 tank and mechanized divisions in East Germany, two in Poland, and four in Hungary. All of them are combat-ready. These formations can be reinforced by 20 Czech, Polish and East German divisions.

From European or Western Russia, the Soviets can move forward 40 to 50 divisions, if they are not prevented from doing so by our air forces. These ground forces can be supported by upward of 6,000 Soviet and satellite aircraft.

Based on the strategic and tactical concepts of the Russians, and from their strength, disposition and equipment, Soviet operations in a major war can be judged to be something like the following:

Our NATO forces will be subjected to a massive Soviet offensive launched with little or no warning. The attack will be by all means available—land, sea and air. It will have as its objective the complete disorganization of our forces before we have time to organize to meet it. Of course all our bases—air, missile, supply and naval—will come under this assault.

To accomplish their objectives, the Soviets must overrun most of Western Europe. They must reach the Atlantic and North Sea coasts to threaten invasion of Great Britain. They must achieve this interim object in order to be in a formidable position for: possible political negotiations at this stage; in the event of failure of political negotiations, they will have a tremendous base for the continuation of the war; and they may consider themselves to be protected against long range atomic weapons which the NATO countries might not be willing to employ against their own and friendly peoples.

THE task of the NATO forces is specified in the preamble of the NATO treaty: I would like to stress that the man who established and organized SHAPE headquarters, your distinguished President, General Eisenhower, stated this mission consisted of two parts. The first is to prevent war, or to make such contributions as we can, with the forces available to us, to deter the enemy from launching his aggression. And our second mission, if our first efforts fail, to defend the peoples and territories of the NATO Alliance once they are attacked.

This means, for the Central European region, the defense of the land mass as far to the East as possible. And in the East the sector is bordered by the Iron Curtain, and it encompasses all of the territories of the nations in Central Europe.

Between the Iron Curtain and the Seine River, there is an area of 330,000 square miles, in which there is concentrated a population of 120 million people and almost the entire industrial and economic potential of the Continent of Western Europe: The Ruhr and Rhine industrial complexes, the coal mines of the Saar and Belgium, the ore mines of Lorraine, the heavy industries of Liege, Charleroi, Denain-Anzin, Pont-a-Mous-

son, Metz and Luxembourg, and with them the five major European ports of Hamburg, Bremen, Rotterdam, Antwerp and Le Havre.

I need not point out that with this massive industrial and economic complex, together with the population to operate it as slaves in their hands, the Soviets would have a great superiority over the United States and the Western Hemisphere. As I say, the military and economic conclusions are obvious.

Now what is the role of our NATO land forces in such a possible war?

As I have said, NATO is a defensive alliance. The type of defense and the methods by which it can be carried out, depend on the form which this war takes. We must, therefore, be ready for all eventualities. Our freedom of action is greatly limited because the enemy has the initiative. We will never start a war. The enemy can therefore dictate the course of initial events selecting the time, place and methods of his attacks.

At the beginning of the last decade, the main responsibility of our defense has lain upon the "sword forces," namely, the Strategic Air Command of the United States, to which the Bomber Command of Great Britain was added later on. These air forces, mostly stationed outside the continent of Europe, were at any time prepared to react against an enemy attack with destructive retaliatory blows. Their capabilities assumed the doctrine of the total deterrent and of massive retaliation. In this plan, the "shield forces," that is to say, the land forces, the tactical air forces, and the tactical naval forces, had the task of defending the vital bases and holding the enemy thrusts until their weight was broken by air attacks—thus the "shield" had what could best be described as a secondary mission.

Because of this lack of strength in shield, one could not escape the fact that the decisive battle in Central Europe could only begin on the Rhine, and one hoped that the war could be ended by the action of the strategic air arm.

SINCE those early days of NATO the picture has changed dramatically. Our enemy now has a strategic air arm. Further, his long-range missile force equals our own. We seem to have reached a stalemate in this category. Because of this dangerous situation then, we must recognize that our shield forces must be sufficiently strong and ready to counter his remaining elements of strength.

With the acceptance of the *Bundesrepublik* in the NATO Alliance, the establishment of the *Bundeswehr*, the introduction of tactical atomic weapons, the strength of our "shield forces" has increased. So much so that today we plan to defend Central Europe from its furthermost Eastern reaches.

The battle in a major war in Europe can be developed in two phases: First will be an operation by the land forces to hold what we have and to survive the initial enemy onslaught. We must ensure that we have room for subsequent operations. To accomplish this we cannot yield the land between the Iron Curtain and the Rhine. If we do, we lose the depth for real freedom of operational movement. The distance between the Iron Curtain and the Bering Sea is 7,250 miles, the distance between the Iron Curtain and the Atlantic coast is 720 miles. I need not emphasize that it is politically and militarily vital to defend the territory of the Federal Republic. This I know you understand full well, and I won't pursue it further.

In the first phase of this battle for Europe, the land forces will have to fight with the minimum support from the air forces, which will be occupied in winning the battle for air supremacy and carrying out other missions not directly related to the land battle.

This situation changes in the second phase, when those enemy forces which may have penetrated into our territory will have to be destroyed in cooperation with the air and sea forces. The main burden in this battle will lie without doubt upon the land forces.

At this point I do want to emphasize that the doctrine of the total deterrent is still valuable today in the political game between the blocs. This is true despite the fact that the picture dramatically changed in September 1949 with the appearance of the mushroom cloud of the first Soviet atomic bomb in the Siberian sky. The development which then began, has today led to the atomic stalemate.

Formerly it was you, the United States, who alone in the West possessed atomic weapons and could, by this sheer fact, guarantee the integrity of Western territory. However, today, the task of the Strategic Air Forces is that of neutralizing the Soviet strategic air and missile forces by the threat of nuclear retaliation. The sword forces of the West have thus retained their military and political importance.

Now any aggressor planning a major conflict must take into account the existence of all these forces. This will force the Soviets to think twice before deciding to launch a total war. Under these circumstances, it is entirely possible that the greater danger lies in relatively minor conflicts. Dr. Henry Kissinger says: "The main problem of strategy today is to develop a range of answers to meet the different challenges of the Soviets."

Formerly we were compelled by the weakness of our conventional forces to meet hostile acts of nearly any kind by means of a total atomic war.

Today we must react with greater flexibility and with greater speed if we are to meet conventional aggression without employing the strategic air forces, and launching the nuclear all-out war. It is possible that the decision to use, or not use, the sword forces will be so delayed that unless we can react strongly and effectively to meet conventional aggression we will suddenly find that the enemy has achieved his objective before we have made up our mind. I remind you of the war in Korea in which only conventional means were used despite the fact that you at that time were far superior to the Soviets in the development of atomic weapons. The Communists very nearly got what they wanted by conventional means. And it was only through your superb efforts and those of the other UN nations joining you that the situation was saved.

These considerations have led to the philosophy of the deterrent phases.

To get a clear picture of these concepts we must differentiate between total war and geographically limited wars (we would call them localized wars); wars waged with limited means and weapons (let's call them limited wars); and finally, wars waged with limited means and weapons and localized to the geographic areas in which they take place. A study of recent history shows that even these localized and limited wars can be lengthy and must be decided by strong forces.

It is a fact that limited and localized wars can be caused by an accidental clash of opposing forces. It is also possible that the potential enemy might launch a probe of our defenses. Such actions, even with a limited military and political objective could easily become uncontrollable. The danger here lies in the possibility that the aggressor, having achieved initial success, might make a mistaken estimate of the situation, underestimate the Western determination and strength, and be thus led beyond his original intention.

In all such situations we must have the means in hand to stop the enemy, to hurt him badly and to have him understand that we mean business.

Once stopped, the enemy must clearly realize that by continuing his combat operations, he will bring about a major war—the consequences of which he will have to face. This is the moment at which politicians will have their say, before the so-called "absolute weapons" speak.

General Norstad has said: "Policy must, in our time, be supported as it has been for the last several thousand years by power in some form. This is a fact of life. There is no policy without power, whether we like it or not."

Our successful military reaction must be able, therefore, to give power and weight to the words of our civilian political leaders. The combination of our military might and our political determination must convince the enemy that if he continues his aggression, it is he who will have to take the responsibilities in the eyes of the world; and that he runs the danger of triggering our entire worldwide deterrent potential. This is the only way we can impress him.

Under these conditions it is the mission of the "shield forces" to impose this pause on the enemy. Hence, they will at the beginning of such a conflict bear the main burden for the West.

It is of course axiomatic that a modern battle is not purely a ground battle. The land, air and sea forces depend upon each other for support. Their interdependence is a fact. The main effort, however, lies with the land forces. It is they who have to hold the ground. If they do not succeed, neither the air forces nor the naval forces, staffs, and the governments can fulfill their missions. This is a historical fact. Your distinguished General Omar Bradley once stated it when he said: ". . . no victory is assured, until the man on the ground takes possession by his physical presence of the enemy's soil."

THE developing political and military situation in NATO has transformed the "shield forces" from a factor, at times perhaps nebulous, into a decisive force. Our current planning provides for some 30 divisions in Central Europe. For many reasons it has not been possible, as yet, to meet this target strength. The situation will improve rapidly in the next two years with the build-up of the German *Bundeswehr*.

With mobilization being a tenuous effort in current warfare, forces are necessary which are constantly combat-ready. You will recall that General Taylor emphasized this when he said: "The day of deliberate mobilization and unhurried training is past." With this in mind, 30 divisions are therefore considered a minimum strength.

The land forces must be strong enough to cope with conflicts on the scale of limited and localized wars without requiring the support of the strategic air forces. They should, moreover, be in a position to sustain the initial phase of such a conflict, with the minimum means required.

With these we must achieve operational freedom, take the initiative, force our will upon the enemy and defeat him by all maneuvers of modern combat. We must not be charged with tasks of a static nature.

The land forces of Central Europe are provided by eight nations. The integration being achieved among these forces has materially increased their capabilities for successful employment.

The system of integration of the NATO forces has, basically speaking, proved its worth. Certainly there are still numerous shortcomings, but

our difficulties can be overcome if each nation recognizes the common responsibility towards the Western world and subordinates its national interests to the common good. Besides this, integration should be more than just a type of organization dictated by military expediency. Our headquarters in Fontainebleau show that military integration has there led to what I can best describe as personal or human integration as well.

I TOOK command of Allied Land Forces, Central Europe, more than three years ago, and I have witnessed this process at first hand and I am pleased to tell you that there has been not one disappointment. My Chief of Staff is a Belgian Lieutenant General, his deputies are a British and a Dutch Major General. The individual divisions of the headquarters are headed by American, British, German and French Brigadier Generals.

It was my personal wish that the G3 Division of LANDCENT should be led by an American General. I have been greatly pleased that such outstanding officers as General Easterbrook, General Polk and now General Alger should have held this appointment.

Notwithstanding the differences in nationality and in origin, we are all united in spirit and in common objectives.

Of course the ultimate objectives of integration are: uniform command, training, organization and equipment and supply.

In the field of command the influence of the NATO commanders, especially on the training of forces, extends down to corps level and is practiced through exercises. Our NATO commanders also have the right of inspection of assigned forces.

The training of the national contingents is the responsibility of the national authorities. The methods and results obtained are still frequently different. This of course can complicate the exercise of command in war, because it will be unavoidable that divisions of different nationalities will be commanded by one corps headquarters.

I have addressed myself to this problem in the course of this winter and we are at present developing a common command doctrine which I am confident will be of great assistance.

In the field of organizational compatibility, we have made excellent progress. We in the Central Region Land Forces have developed what is now known as the LANDCENT Division and our objective is that, in the not too distant future, the divisions of the various European nations will be fully compatible and exchangeable based on this LANDCENT organization.

THIS division is based on the brigade concept and consists of three brigades and divisional troops. In the infantry division two of the three brigades are capable of engaging in combat for a certain length of time independent of the division.

The composition of our division can be changed to meet the developments of the situation.

The division is intended to be fully mobile. On the present and future battlefields the infantry must be transported in armored personnel carriers, the artillery must be self-propelled, and atomic fire capability must be organic to the unit. A large percentage of the combat vehicles must have an amphibious capability.

The war we are talking about will be characterized by rapid movements. Fast changes of the situation will demand quick reaction and will on frequent occasions see units fighting independently possibly in isolated situations. And, as I have said, it will also be characterized by the intermixing of formations.

The standardization of the principles of command and the standardization of the organization of formations must, therefore, be supplemented by the standardization of equipment, and the whole must be supported by a logistic system of great flexibility.

As you know, the equipping of forces, as well as their support, is at present a national responsibility. Differences in weapons, equipment and logistical command are the result. This situation is unsatisfactory and it is a matter of great concern to me. I certainly agree with General Eisenhower when he said: "It is logistics which influence all battles and decide many of them."

Several NATO agencies and committees are working on the problem of standardization of weapons. Encouraging results have already been attained; however, the general progress is very slow. I realize the difficulties, primarily in the economic-industrial field, which such a standardization entails. We know that the problem cannot be solved in one day, but the NATO organization must have a greater influence in the efforts toward standardization and progress must be speeded up.

To this end, I would like to stress the urgent need for uniform agreement in the matter of standardization among forces developed in Central Europe and the first field of endeavor should be that of heavy weapons which require the major part of the supply tonnages. And while we are standardizing we must establish a uniform logistic system of great flexibility in which the movements to and from the front are not bound to roads and rails.

I AM aware that this audience is thoroughly conversant with modern ground force needs for increased mobility (both air and ground), improved communications and more comprehensive and reliable means of battlefield surveillance.

However, I would like to emphasize certain of those needs and to express the fervent wish that you will continue your outstanding service-industry cooperation that is developing the equipment necessary to satisfy them.

The vastly increased ranges of missiles and rockets over World War II artillery have greatly increased the World War II linear dimensions over which the ground commander must realistically consider his capabilities for troop dispersons and concentrations. Further, tactical atomic weapons have placed a premium on fast-moving carriers that can provide protected coverage for cross-country battlefield movements.

These dual requirements must be met by improved personnel carriers having higher speeds, longer ranges and rugged reliability and by short take-off and landing aircraft that can increase not only our capacities for troop movements, but those for tactical control and supply as well.

Greater dispersion and speed of troop movements, correspondingly demand more compact, longer-ranged and reliable communications throughout all echelons of command. We need universal, multi-channeled sets that can service the infantry-artillery-armor team nets and work efficiently with our air-support units.

The ground commander needs more extensive means for battlefield surveillance to enable him not only to locate and fix those distant targets whose increased mobility can impose sudden threats to his dispositions, but also to enable him to evaluate the effects of the strikes he makes against such targets. This calls for both improved manned and unmanned vehicles for aerial surveillance and for mechanical systems that can assimilate, categorize and evaluate the volumes of information that will be received from such vehicles.

IN a future military conflict, whether it be a nuclear all-out conflict or a localized and limited war, the land forces will always be indispensable to a final victory.

The aggressor must be defeated and destroyed. Friendly territory must be cleared of the enemy. Only the land forces are capable of doing this.

In modern war, the front is everywhere. Only the land forces can cope with infiltration, guerrillas, and airborne troops.

The role of the deterrent does not rest alone with one force. It is the threat of massive retaliation from air, sea and land and from our very people and national structure which supports them that is the real deterrent.

The build-up of land forces in sufficient strength and adequately armed demands great sacrifices of the Western nations. But freedom is not a gift. "Our happiness is in our freedom—that freedom demands courage." Our nations should never forget what President Eisenhower has said: "In the final choice a soldier's pack is not so heavy a burden as a prisoner's chains."

I point out once more that the Soviets have never ceased to appreciate the importance of land forces. The West is now returning to them the value which it has long denied them.

In all our efforts we should, however, not look at these problems from any exclusively military perspective. National defense and survival are determined by military, historical, political, economic, philosophic and religious questions.

IN all of this we must not forget the individual. Among soldiers it has always been said "When all is said and done it is the man who does the fighting." And this man should be our concern.

General Patton said in similar vein: "Wars may be fought with weapons but they are won by men. It is the spirit of men who follow and of the man who leads that gains the victory."

It is the soldier who has in all nations so often given a silent example and it is this human being who requires care and education—only then will he be capable of marching "at the head of progress."

I know how seriously all of you devote yourselves to our common task and how your work extends across the oceans. That is why we feel, as you do, that leadership is a mission—the "Joy of the Apostles." Each of us must find certainty in his own heart and have a responsibility for the whole community—the community of nations.

If we act along these lines, we will create in all fields of national life and in the human community a spirit—"the life blood of democracy"—which will march into the future firm in spirit and set in character. Only a man who knows how to act in a seemingly hopeless position will be capable of any task.

Let us soldiers, gentlemen, work to defend our common home and our way of life and the great intangible values of our Western World. Let us work for peace and freedom, but let us always be stronger than that evil which opposes us. To this end let us be courageous in spirit, self-assured in our hearts, free but disciplined in the face of all the adversities which are sure to come from within and from without.

WITH your help, my friends, and in the spirit of your Association and that of the Army of the United States, we in NATO lead the way to a better world, secure behind the forces which defend it. In spite of all difficulties, let us not forget the phrase in your well-known poem, "The Flag of Our Nation": UNITED WE STAND, DIVIDED WE FALL.

Wilber M. Brucker
Secretary of the Army

HOW FAR WE HAVE COME!

THIS annual meeting is a fitting time to take inventory to see how far we have come and where we are going. It is truly astounding to note the progress that has been made in the last five years in increasing the capability of the United States Army to carry out its vital role in deterring aggression, and to provide the Nation with the military sinews necessary to cope with any type of attack against the free world. If deterrence fails, a vibrant, strong, and combat-ready Army is needed to assure victory.

I want publicly and for the record to pay just tribute to the tens of thousands of our loyal Army, who have wrought these deeds of progress into milestones for the security of America and the free world.

Also I want to emphasize four of the major problems which loom large in our thinking today, and which demand the sustained effort of us all if they are to be solved.

ALTHOUGH the Army's scientific and technological achievements to provide weapons and equipment fully adequate to modern needs have been outstanding, there is another side to the picture which is less encouraging—and that is the problem of modernization, by which I mean getting these new weapons into production and in sufficient quantity to fully equip our troops.

It is our national policy to rely upon quality of forces rather than try to match the communists man-for-man or weapon-for-weapon in order to obtain and sustain a deterrent military advantage. High quality forces are achieved through the combination of superior manpower and superior weaponry and equipment.

We can rest assured that there is no soldier in the world today any better than the American soldier. We have superior manpower.

Our Army wants a matching superiority over the Soviets in the quality of equipment actually in the hands of troops. Since World War II, the U.S.S.R. has issued to troops new models of virtually all the weapons and equipment employed in the Soviet army. For some items, there have been two post-war generations. Post-war Soviet equipment is becoming standard in armies of the European satellites, and attractive offers of modern equipment are being made to the so-called "uncommitted" nations.

Although we have in development, or ready for production, much equipment which is superior to that possessed by the Soviet army, the level of procurement funds available does not allow modernization of our equipment at an accelerated rate. I need not point out the "cold war" implications involved in these facts. Just as strategic weapons play a deterrent role in our position of strength, whether it be in cold war or actual thermonuclear exchange, so also do tactical weapons. In many parts of the world, and for many purposes, a more effective rifle, a machine gun, or a better tank is often the most tangible and readily convincing indicator of our available military potential, and our immediate ability to carry out our commitments for the defense of the free world—without destroying it in the process.

BY increasing the average quality of our Army personnel, we have offset to some degree limitations on our manpower resources. A high quality soldier, a man well-trained and well-motivated, is worth a squad of poorly trained men who lack the proper attitude toward their military responsibilities. Although we undoubtedly can effect further improvements in this area, there is a very definite limit to how far quality and good management can be stretched to offset a lack of quantity. One man can be at only one place, doing one job, at any one time, no matter how high his quality. Furthermore, there is a long lead-time necessary to produce a truly efficient soldier, especially in the more technical fields, before the value of increased quality can be realized. There is an irreducible minimum of soldiers necessary to fill the strictly military jobs created by the Army's mission. The 870,000 strength currently authorized for the active Army is marginal to execute the vital global responsibilities assigned to it—responsibilities which are

increasing rather than diminishing. One result of this has been the necessity to use Korean nationals to fill out combat units of the Eighth Army.

ARMY aircraft developments are pointed toward achieving, in addition to increased battlefield surveillance and target acquisition capabilities, the ability to move comparatively small, high-priority loads of both personnel and materiel in the immediate, close-up battle area. The Army has no intention whatever of entering the airlift role, either tactical or strategic, currently the responsibility of the Air Force. Nevertheless, the Army is, of course, deeply concerned with airlift. Only through the provision of an adequate and appropriate capacity to move troops promptly by air to any part of the world can our Army forces—especially our strategic reserve forces—achieve the military effectiveness required. Strategic airlift requirements, as expressed by the Army, are to move one or two battle groups, with essential equipment, to any trouble spot, departing within two hours of the time of alert; to increase this force to one division within a matter of days, then to augment with the air-transportable elements of a two-division force within 4 weeks.

It is our feeling that in order to insure prompt and effective responsiveness, sizeable portions of both strategic and tactical lift must actually be in the hands of forces-in-being in the active Air Force and must be specifically allocated for Army use. Dependence on the Civil Reserve Air Fleet, or any successor civilian agency, or on reserve component units, is justified only under statutory mandate and foolproof guarantees of their availability when and where needed. A committee of the Congress has pointed out that national airlift resources to meet our minimum requirements are today inadequate. Congressional interest in the airlift problem is spurring real activity toward its solution.

IT is universally recognized that our nation needs an active defense against the intercontinental ballistic missile. I firmly believe the first side to achieve a practical defense against ballistic missiles will gain not only a tremendous psychological advantage but, more importantly, a very great military advantage. The nation's only weapons system now being developed to provide such a defense is the Army's Nike Zeus. The Commanding General of the North American Air Defense Command has declared that rapid progress on the Nike Zeus is a matter of greatest urgency. Although the Nike Zeus research and development program has been assigned top national priority, authorization to go into production on this vitally needed weapon awaits further demonstration of its capabilities in firing tests against actual ballistic missile targets in the Kwajalein Island area of the Pacific. As recently as May 27 of this year, the Nike Zeus was successfully test fired over a ballistic trajectory, during which both the booster element, which enables it to reach hypersonic speeds in a matter of seconds, and the sustainer engine performed according to highest expectations. The Nike Zeus represents a logical and practical extension of the tried and proved principles of the Nike Hercules, just as the Hercules was based upon extension of the principles which the Nike Ajax established as sound. Thus our progress is firmly founded upon demonstrated performance, and we are fully confident that the forthcoming tests in the Pacific will demonstrate that Nike Zeus will do the job for which it is so urgently required.

These are military tasks and problems. They are of tremendous importance, but there is another task of an equally important nature which is the responsibility of every American who can read the ominous handwriting on the wall.

IF a nation is unprepared to cope with any situation which might develop—if its people lack the moral, spiritual, and physical preparedness needed to successfully resist any force within or without its borders which seeks to destroy it—it will ultimately be swept down to defeat. If, on the other hand, its people are ready for anything, afraid of nothing, and willing to sacrifice and serve without limit for the national well-being, that nation will deserve to survive.

In order to preserve our freedom, we must prove that a free people can, through voluntary effort, continue to accomplish even more of the things that count most in the long run than the regimented society of the Soviet Union. The Soviet system requires people who can be managed. In contrast, a free society requires people who are capable of managing themselves. We must not allow the desire for comfort or convenience in any aspect of life to assume greater influence in our plans and activities than the desire to protect our way of life faithfully and well.

Are we able to make the response in our time which is imperative if we are to survive the massive drive of communist imperialism?

Let no potential aggressor fail to realize that in this time of crisis the American people stand behind their President. The communist leaders ought to listen to the message of good will he brings to the world. It is always unwise to tempt the fates by continually provoking a patient nation. If the Soviets doubt our will to carry out our commitments to resist aggression anywhere in the world, and again resort to arms, they are in for a terrific surprise!

General
Lyman L. Lemnitzer
Chief of Staff, U. S. Army

FORWARD STRATEGY REAPPRAISED

THE annual meeting of this Association has always had special appeal for me. I view it as an Army homecoming for members of the Army, alumni of the Army, and friends of the Army. It is a time of reminiscing. It is also a time to appraise the turbulent and fast-moving events of current history which have direct impact on our present and future missions.

We live in a world of ferment and revolutionary change which has no historic counterpart. It is true that past history records periods of dynamic intellectual and economic expansion during which certain nations and cultures displayed extraordinary outbursts of creative energy. The Renaissance of Western Europe, which began in the 14th Century, is only one of many examples. However, the Renaissance spanned centuries. Further, it affected only a portion of the world. By contrast, today, virtually the entire world is in the throes of a renaissance during which political, social, economic, and scientific developments evolve in years, or even months, instead of centuries. In this shifting world environment, nations are being born—and nations could die—with awesome rapidity.

In today's world, the basic conflict between free men and Communists exerts a dominant influence. We recognized the massive and global menace of international Communism early in the post-World War II period. To combat this menace, we joined with other free nations in adopting a policy of collective security. In light of the growing power of the Communist empire, it becomes even more compelling that we merge our strength with the strength of other free nations in a common defense against a common danger. In other words, the formula of collective security remains more important than ever.

I believe that most Americans agree on this point. Meanwhile, questions have arisen concerning the means we should employ in contributing to the collective security of the free world. For example, some have called for a reappraisal of our forward strategy, especially in light of recent disorders in some countries where we are maintaining military bases and forces. I would like to devote my remarks today to the subject of forward strategy because it is so important to the country and to the free world and because the Army plays such a key role in its implementation. Sooner or later, this strategy affects all members of the Army and their families as well. This is not to say that the other members of the United States armed forces do not participate in the implemenation of forward strategy because they do.

In discussing forward strategy, I intend focusing primarily on the military aspects of this strategy—although I fully recognize the importance of the many non-military factors involved.

Since forward strategy means different things to different people, I'd like to define what I think it means. By forward strategy, I mean a plan to dispose our military power so that we, together with our allies, could meet and repel promptly Communist military aggression if it occurred along the periphery of the free world as well as anywhere else it might occur. Preparations to execute this strategy include, among other measures, the positioning of military forces overseas together with development of a capability to project our military power rapidly to areas beyond our borders when it becomes necessary.

THOSE who question the continued need for a forward strategy do so for a variety of reasons. However, I believe that the consensus of the objections, made on military grounds, rests on the thesis that a forward strategy is no longer required in light of the current strategic situation. The reasoning behind such a thesis goes like this: One of the principal means of stemming the spread of militant Communism in the post-World War II period has been the United States capability to deliver long-range nuclear blows against the Communist empire. The establishment of United States bases in allied countries

close to the enemy's homeland facilitates the development of that capability. However, when the Soviets also developed an ability to bring nuclear firepower to bear against distant targets, our bases immediately became vulnerable and hence—it is argued—less useful. Moreover, the thesis continues, as we developed weapons systems of intercontinental ranges, the original requirement for bases close to enemy targets disappeared, or at least greatly diminished.

It appears to me that the most striking feature of the thesis I have just described is the implicit assumption that military aggression by the Communists would necessarily take the form of long-range nuclear attack. If made at all, such an attack would undoubtedly include an attack against the United States and would precipitate general nuclear war. However, if one is to credit not only repeated statements of Soviet leaders, but also long-established Soviet military doctrine, the Soviets agree with us that neither side could escape widespread devastation in a future general nuclear war. In fact, it appears that the Soviet attitude in this regard may have irked their Chinese Communist allies. Communist China has consistently displayed less respect than the Soviets for the destructive power of nuclear weapons as she continues to threaten the use of military force in pursuit of her aims.

Thus, if we consider the attitude of the Soviets who possess a nuclear capability and the attitude of the Chinese Communists who do not, it would appear that limited war would continue to be more likely than general war.

LIMITED war raises two major requirements. The first is for quick reaction to enemy aggression so as to limit the extent of his gains. The second requirement is for means to apply that degree of force needed to defeat the enemy without inflicting undue losses on noncombatants or risking expansion of the war into a world-wide conflagration. Versatile, dual-capable ground forces which can fight either nuclear or non-nuclear war are especially well-fitted to fulfill this second requirement. This is so because they can employ a variety of types of force against an enemy appropriate to the occasion. In other words, they can exterminate the rats without destroying the neighborhood infested by the rats.

Although modern technology has afforded tremendous improvements in many aspects of our ability to wage general nuclear war, it has not provided comparable improvements in many fundamental aspects of our capability to wage limited war. For example, in general war, the intercontinental ballistic missile can deliver nuclear firepower to distant targets in a matter of minutes. However, the essence of the problem in limited war is to deliver combat forces rapidly to distant trouble areas where they can employ either nuclear or non-nuclear fire. This movement depends on air and sealift and there have been no tremendous improvements in the capabilities of these means of transport. As in the past, their speed of movement is still measured, not in minutes, but in days, or weeks, or months. In other words, the familiar limitations of time and space which we encountered in past wars would be very much with us in future limited wars.

Now I am well aware that when anyone, particularly a general, makes this sort of a statement, he leaves himself open to the accusation that he is "preparing to fight the last war." However, I would prefer to regard my statement as recognition of the need to face up to old, but nonetheless real, problems which have not disappeared solely because of the passage of time or greatly improved technology.

THE adoption of a forward strategy provides an obvious answer to the problem of decreasing the time lag between an enemy's limited military aggression and our response. Such a strategy provides for the positioning of combat units at or near potential trouble spots throughout the world. There is no substitute in limited war for military forces on the ground who know the ground on which they fight, who know the people living on that ground, and who know local Allied units which would be serving alongside of them.

A forward strategy also provides a means to reinforce such forces rapidly, or to move combat units to threatened areas where we have no forces. It does so by fostering the development of a strategic transport system consisting not only of long-range transport aircraft and ships but also of the forward bases and airfields which are an essential part of that system. It does so also by providing readied mobile reserves of all of the United States armed forces, like the Strategic Army Corps, which are prepared for rapid movement via the strategic transport system.

Thus, it is apparent that a forward strategy will continue to exert a dominant influence on our ability to conduct limited war—and thus to deter enemy initiation of limited war. The influence of a forward strategy in deterring or winning general war is equally important, if less apparent.

In determining what should be done to deter enemy resort to any type of war, including general war, there is always a tendency to think exclusively in terms of forces which we would need to conduct successfully the type of war which *we* visualize. However, it is the enemy, not ourselves, whom we are attempting to impress by our military preparations designed to discourage his attack. Hence, in making such preparations,

we should consider—at least in conjunction with our own concepts of general war—the enemy's concept and the types of forces which he considers necessary to fight the war successfully. This logic assumes even greater validity in connection with general war. Because such a war completely transcends man's experience, it has inspired an extremely wide variety of opinions concerning the form it would take.

THE Soviets have consistently maintained that a general nuclear war would be long and drawn-out. They do not discount, for a moment, the profound influence which a nuclear exchange, or exchanges, would have on the course of such war. However, they insist that the ultimate decision would be attained by balanced air, sea, and ground forces, operating in combination.

The composition of Soviet armed forces reflects this philosophy. The Soviets are developing a growing capability to wage intercontinental nuclear warfare. At the same time, they also maintain powerful modernized ground forces and tactical air forces, designed primarily to wage offensive warfare, with or without nuclear weapons. They also maintain a potent submarine fleet. It is noteworthy that, unlike ourselves, they have not attempted to create a strategic transportation system which would permit them to move large forces, on a continuing basis, to combat areas distant from the Eurasian land mass. This would indicate that their major geographic objectives in a general nuclear war would be restricted initially to the Eurasian land mass.

If we consider the Soviet concept of general war, together with the composition of their military forces, we can determine—at least in broad outline—the strategy the Soviets are capable of following in such a war. Elements of that strategy are—

A nuclear strike against the United States with possible strikes against other portions of the Free World.

Concurrently, a massive attack by ground and tactical air forces against free nations in Eurasia. Seizure of the peoples, land, and economies of these nations would be the true objective of the Communist attack. Attainment of this objective would mark the completion of a major phase in achieving ultimate world domination.

An additional element of the Communist strategy would be initiation of a great war at sea as Communist submarines attempted to block reinforcement by the free world of combat areas in Eurasia.

OUR ability to defeat this strategy provides a measure of our ability to deter Communist initiation of general nuclear war. It is evident that such an ability must include an invulnerable means to retaliate, in kind, against a nuclear attack on the United States. At the same time, we must also display an evident capability to meet and defeat Communist forces which attempted to attain the Communist objective—seizure of free Eurasia.

In developing this latter capability, the importance of a forward strategy again becomes apparent. It would appear especially important that we maintain, in conjunction with our Allies, adequate military forces in Eurasia. This is so because difficulties of reinforcing them in general war would unquestionably be greater than in limited war. Ground forces should constitute a high percentage of these forces.

Earlier, I stated that I would restrict my comments principally to the military aspect of a forward strategy. However, the psychological aspects of that strategy—particularly as they relate to the Cold War—are completely intertwined with the military aspects. Hence, in concluding my remarks today, I would like to discuss both aspects together.

THE Cold War is fought on a variety of fronts—political, economic, sociological, psychological, and military. Yet, at root, it is psychological. Throughout the Cold War, the real measure of the ability of free men to withstand Communism is what they, themselves, *think* it to be. In this regard, the power represented by free world military strength makes an indispensable contribution to the confidence of free peoples. However, the existence of this strength must not only be apparent, it must be obviously positioned for use, and there must be a clear indication of a willingness to use it if need be. I believe the contributions to Allied military strength which we make, under a forward strategy, meet all of these criteria.

The diametric opposite to a forward strategy is the concept of a "Fortress America," involving withdrawal of our forces to the United States. We have witnessed an example of such a concept in recent history. During World War II, as Hitler's fortunes waned in Africa and then in Sicily, he began to stress the concept of an impregnable "Fortress Europe." Actually, this was an exercise is self-deception, if Hitler ever really believed it himself. This myth was designed to obscure the hard reality that he was losing on the fronts where his forces were in contact with his enemies.

A "Fortress America" could prove to be as great a delusion as was Hitler's "Fortress Europe." That is why I feel that the American people will never accept such a concept. Nor will they permit abandonment of our current policy of forward strategy which still retains so great a military utility today.

Lt. Gen. James F. Collins
Deputy Chief of Staff for Personnel, USA

PERSONALIZING THE PERSONNEL BUSINESS

THERE have been some interesting and in my view quite significant personnel developments of the last few years. These add up to a great improvement in the quality of personnel in the Army. They mean too that we have moved further along toward another primary objective, to personalize the personnel business. For example, I mean eliminating some of the delays and irritations of personnel processing, making the system more responsive to individual needs—in short wherever possible, treating people like people instead of a commodity.

My office is concerned not only with military personnel, but also with civilian employees. We have 390,000 of them all over the world and they are part of the One Army team. Many of the measures we have taken to improve the caliber of our people and to retain the best, apply to civilians as well as military personnel.

The personnel business can be divided roughly into two fields—manpower management, and personnel management. By manpower management I mean the procurement, allocation and utilization of manpower in bulk. Here we are dealing in spaces and strengths. Personnel management on the other hand is the management of people as individuals, from the time they enter the service until separation or retirement.

The authorized military end strength of the Army for the past and the current fiscal years has remained at 870,000. Of course the actual strength varies during the year due to fluctuation in intake and discharges in any particular month.

Our principal objective has been to raise the quality of our personnel to meet the ever more demanding requirement for skills in today's Army. I believe we have achieved a very considerable measure of success in this effort. The quality of our enlisted personnel is far higher than we have ever had in a non-emergency situation.

One demonstration of that statement is the fact that five years ago the Army operated five disciplinary barracks, today it has only one. The General Court Martial rate has dropped 65 per cent during this period and the AWOL rate has been cut by a third. Of course, there are many reasons for this improvement in discipline, one of them better leadership, but part of the answer is that we have better people.

Since 1 January 1959 we have accepted for enlistment, only men who score in the 31st percentile or above in the Armed Forces Qualification test. And we have accepted draftees between the 10th and 31st percentile only if they can qualify in at least two aptitude areas of the Army Classification Battery of tests. We now have a reasonable assurance that the men we take in can absorb and profit by the training they receive. By keeping out the less apt, we also eliminate to a great extent a group that accounts for a disproportionate share of disciplinary problems.

We have placed a great deal of emphasis on our recruiting program in recent years until now about 75 percent of our enlisted personnel are volunteers. Our objective of course is an all volunteer Army, but we are realistic enough to know that this goal is not likely to be reached. As a matter of fact much of the success of the recruiting effort of all the services is due to the heat applied by General Hershey and his Selective Service System.

To insure that we place the right man in the right job we have spent considerable effort in improving our classification system. A good share of our personnel research effort goes into development of tests which will predict how an individual will perform in certain fields.

Of course one of the principal ways to improve the quality of a work force is to retain the best people and improve their abilities by education and training.

Many of the policies designed to improve and retain the best enlisted personnel are included in the Army Enlisted Management Program. At the heart of this program is the Enlisted Evaluation System which provides for evaluation of each soldier's proficiency against Army wide standards. Written and performance tests and a commander's evaluation result in a score which determines whether or not a soldier will receive

proficiency pay. The evaluation system may also be used for other purposes. During this fiscal year we will begin using it to determine a soldier's qualification in the MOS or skill in which he is classified. In other words, a man scoring below a certain minimum will be given additional training to qualify him in the MOS or he will be reclassified in some lower skill level. Eventually the Evaluation System in combination with other factors such as length of service may be used in additional personnel actions—promotions for instance. The task of developing and administering the tests annually in several hundred MOS is a large undertaking, and we have to work into it gradually. We are now in the second year of its operation and expect by the end of FY 61 to have evaluated over 340,000 personnel in 275 MOS.

By the end of the year we also expect to have over 79,000 personnel receiving P-1 proficiency pay of $30 a month. This year too, we will begin paying P-2 payments of $60 a month to personnel in MOS which are most critical to Army requirements. By the end of the year we should have 7,000 in this category.

The chance for additional pay and the competition of the Evaluation System have greatly stimulated our people to off duty study. As part of the General Educational Development Program, during FY 1960 enlisted personnel completed nearly 50,000 high school and 27,000 college courses. Where we once urged our enlisted people to an eighth grade education we now emphasize high school completion.

Other elements of the Army Enlisted Management program include better assignment procedures, more varied enlistment options and promotion to the top grades of E-8 and E-9. These programs are now paying off in increased retention of better quality personnel. As an illustration, our Regular Army reenlistment rate is now 52 per cent, the highest in four years.

I WOULD like now to describe a few new personnel procedures which will show how we are attempting to personalize the personnel business. These measures are sometimes designed primarily for other reasons, but we attempt to keep the individual in mind when we develop them.

The first of these is the Carrier Company Replacement System which began test operation last September. Actually the system is not an entirely new concept, but there are new features to it which we feel merit trial. Here is how it works.

Personnel entering Advanced Individual Training are formed into four-man teams. These teams are made up primarily on the desires of the individual. Its members may be buddies from basic training, or school classmates, or soldiers from the same home town.

The four-man team trains together, lives in the same barracks and insofar as possible is assigned to the first station together. Based on the requirements of the overseas commands, the four-man teams are formed into platoons and companies for shipment overseas.

We feel that the Carrier Company Replacement System materially raises the morale of the individual trainee and retains this morale until he is assigned to his first unit. At that stage the esprit and morale building factors of the unit take over. This system is currently being used in support of U. S. Army Europe, and will, we expect, be enlarged to serve other areas later on.

Our second new development, the Overseas Unit Replacement System began its test operation last February. The first unit under this System will move to Korea next March. This system works as follows:

Each unit is assigned its equipment and personnel. These include both experienced officers and NCO's and soldiers just out of basic training. After advanced individual and unit training the organization deploys to Korea for a 13 month tour. It then returns to the United States where it loses its personnel through reassignment or termination of service, and begins a new cycle.

This system was designed as a peacetime test of a wartime unit replacement system, but it has several other advantages. It reduces the time that replacements are en route to their permanent units; the Army obtains better utilization of its draftees, and certainly not the least in importance, the soldier is given a home early in his service. This feeling of identity with a group is a most vital element in military morale.

Two battle groups have thus far begun the test program, and we plan to have five battle groups undergo the test.

In another new procedure, we are making good progress in speeding up our processing of personnel and dependents going overseas under a system of calling personnel direct to the airport or dock.

Along similar lines we are speeding up the administrative processing of personnel returning to the United States for separation. Instead of transferring a man to a separation center somewhere across the country we will now discharge him at Oakland or Fort Hamilton and send him on his way. This procedure is now in effect for nearly all personnel and will be fully implemented next month.

As the next step we are concentrating on reducing the time that the returnee must remain at the port. However, there are many things that have to be done. The soldier's records must

be correct, he has to be paid, he must be advised of his rights and his reserve obligations. All this takes time. We used to think that we were doing well to get him out in 72 hours.

By streamlining our procedures and eliminating and combining some of the forms he has to fill out we have cut the time to 48 hours. Our goal is to reduce it to 24.

One other personnel management measure I will mention only briefly. That is the assignment of personnel by name from a unit here in the U. S. to a unit overseas. We presently do this for officers and our top two enlisted grades. But under this plan to begin later this year, eventually all personnel will be included. Before he leaves his home station a man will know the specific unit to which he is being assigned overseas. This should give us better control and will permit the individual to do some advance planning.

ONE of our new programs designed to retain and better employ people with talent is Career Planning for Civilians. In working out this program we have borrowed from military practice in that we recruit and develop employees in certain fields for a career instead of a job. Heretofore employees were hired, developed and advanced in answer to local requirements and opportunities. Those who progressed to higher levels in the Army did so without planned or organized assistance.

With civilian career planning, the employee is provided an orderly system of development and advancement on a command and Army wide basis.

As an example, a career program is already in operation in the field of Civilian Personnel Administration. Qualified applicants are admitted at the GS-5 or GS-7 level in answer to Army requirements. They receive on the job training, and as they progress up the ladder, additional training at outside agencies.

By means of job referral systems, the employee is given experience and training in a number of jobs in his field as he advances to more responsible positions. The pattern is similar to that used in officer development.

Civilian career programs are being developed at both command and at Department of the Army levels for key occupational fields. Programs are already in operation in Comptrollership, Supply Management and Civilian Personnel Administration, and are about to be started in the Procurement and Safety fields.

Eventually about 27 percent of all employees and about 22 percent of all occupations will be included in the career programs. This is just one of the measures by which we expect to better utilize our employees and at the same time offer an attractive career to people of high caliber.

NOW let me discuss our officer corps. At our present strength we have on board some 89,000 officers. Naturally the administration and career supervision of so large a group involves many thought provoking problems. At the same time I think it fair to say that today's officer personnel problems, barring any great change in strength of the Army, are none of them unique nor very critical.

Of course we must pay constant attention to the selection and procurement of qualified young men and women who seek officer careers. We must keep a continuously watchful eye on the progress that each officer makes professionally in respect to schooling appropriate assignments and the maintenance of acceptable standards of efficiency. We seek to attain a continuous flow of personnel through the several grades with a minimum of stagnation and with a minimum of too quick advance.

Perhaps the key to this orderly progression for officer careers is the long range active duty program.

As you may know some 58 percent of all officers in the active Army are reserve officers. When we substract the recent ROTC graduates serving obligated tours, that still leaves about 34,000 Reserve officers on extended active duty.

We have done our best through legislation and regulation to provide an assured career for this group of dedicated individuals so essential to the accomplishment of the Army's mission. Some years back, we placed all of them in an unlimited category status, and assured them, within strength limitations and efficiency requirements, of 20 years of active service.

The so called World War II hump of officers is now reaching the 20 year mark and over the next several years large numbers of Reserve officers will be retired.

Two groups are being retained beyond 20 years. The first is composed of those regarded as the most outstanding in comparison with their contemporaries; and the second consists of officers of demonstrated high caliber for whom a specific military requirement exists—mainly in technical and professional fields. To date somewhat over a thousand have been retained beyond 20 years under these programs.

The successful operation of this 20 year retirement program is vital to the strength and vigor of the officer corps. It permits us to recruit new men at the bottom of the ladder, provides reasonable progression and a rewarding career, and prevents an uncontrollable exodus in 1970 when both regular and reserve officers would go out together.

Our retention rates of junior officers have improved through the help of the 1958 pay bill and

the efforts of commanders all down the line. This year we expect to procure nearly 9,000 lieutenants for the active Army, about 1500 of whom will receive regular Army commissions. After the period of obligated service we expect to retain about 95 percent of Regulars and 30 percent of Reserve officers for extended careers. This marks a considerable advance over the past six years.

WE continue to look at the problem of the generalist versus the specialist in the general staff functional areas. As you know, an officer is qualified first of all in his basic branch, infantry, engineers, or ordnance for example. During the first half of his career he spends most of his time in branch assignments. Later he serves a number of tours on the staffs at various headquarters. He may be in personnel the first time, operations later, and perhaps intelligence a third time. This gives the officer a wide range of experience useful in command assignments. However, for maximum efficiency it might be better had he served his staff assignments in one field.

As you may know, we have specialist programs in logistics, intelligence and certain other fields. Perhaps the answer is to extend this principle to other general staff areas.

We are now studying our methods of managing the careers of our officers who have scientific backgrounds. As you know the Army requires a substantial number of officers with sufficient scientific training to work with civilian scientists and to supervise research and development in military fields.

We want to be sure that our policies are designed to draw and hold in the service, officers with scientific knowledge and to obtain their most efficient utilization.

For the Warrant Officer we have recently announced a new career program designed to fit him usefully into today's Army with a more definite career pattern than before. We see the Warrant Officer as a highly skilled technician filling those positions too specialized in scope for a broadly trained commissioned officer.

Warrant Officers will be concentrated largely in fields that involve operation of aircraft and in supervising the operation and maintenance of all types of electronic and mechanical equipment. This of course is a program of gradual change and warrant officers who cannot be retrained into new specialties will be held on in their present fields until retirement.

BEFORE winding up this discussion of Army personnel matters, we might take a brief look at the future.

The Defense Appropriation Bill for this fiscal year provides for a severe cut in funds allocated to permanent change of station travel. We have already taken some steps and others are planned to save travel dollars. We have had to virtually eliminate the more expensive commercial sea and air travel except to those areas not served by government owned transportation. Moves of personnel within the United States are being severely restricted.

We are encouraging liberal extensions of overseas tours on a voluntary basis and have under consideration a number of other possibilities for reducing travel costs.

In the area of manpower generally, we must continue to live with rather austere manning levels. We will continue to emphasize throughout the Army those measures designed to obtain the maximum and most efficient utilization of our personnel.

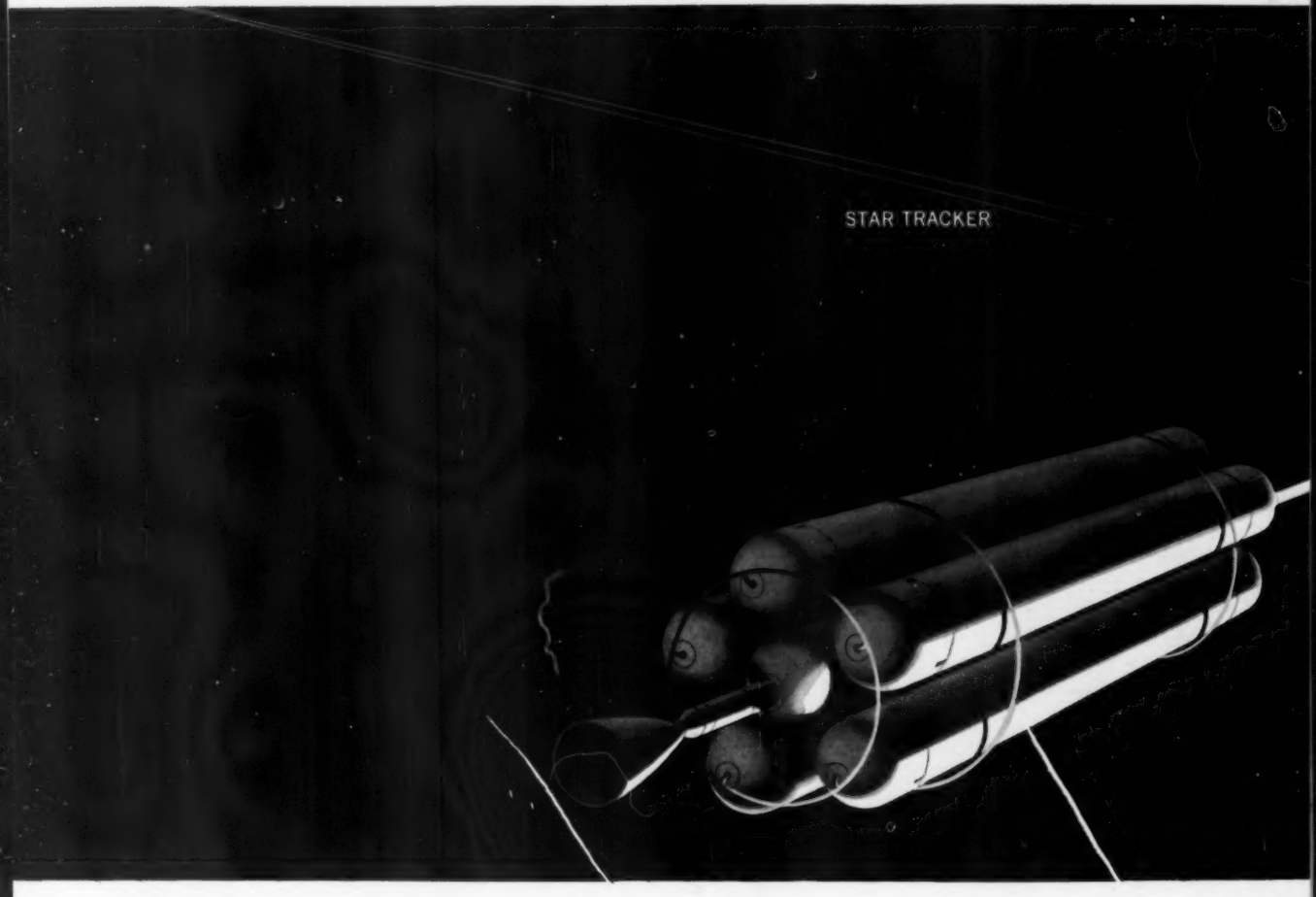
The outlook in personnel management, I feel, is bright. I have covered a number of projects which will move ahead in the next year and which are designed to raise the quality of our personnel and offer them challenging and rewarding careers.

In addition we are continually looking for ways to increase our efficiency by the use of automatic data processing equipment to keep track of our people and their changing status. Already we have in the Pentagon on magnetic tape the essential data on all officers in the active Army. A computer is in operation at one of our Army headquarters and in two years we hope to have similar installations at all the Army headquarters in the United States.

In our program of personnel and human factors research, we are seeking better means of selecting personnel for various jobs, better ways to predict performance and more effective measurements of efficiency.

We feel that man is the most important single element of any Army weapons system. Therefore we work closely with the developers of hardware to insure that the human factor is introduced when a system is planned, not when it is ready for use.

Selection, training, organizational and human engineering factors must be allowed to influence weapons system development to the fullest extent possible. They must be introduced as early as possible and must run concurrently with material development. Through such coordinated effort new weapons systems are adapted to the capabilities of the soldier operator or user and the time required to select, train and make him operational are reduced to a minimum. We have made progress in this field during the past year and I look forward to more in the coming year.



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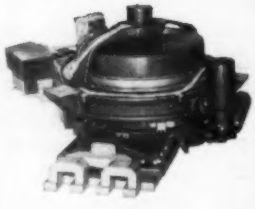

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Passive doppler
Active doppler

OPTICS

Star trackers
Auto sextants
Horizon scanner

INERTIAL PLATFORMS

Floated rate gyros
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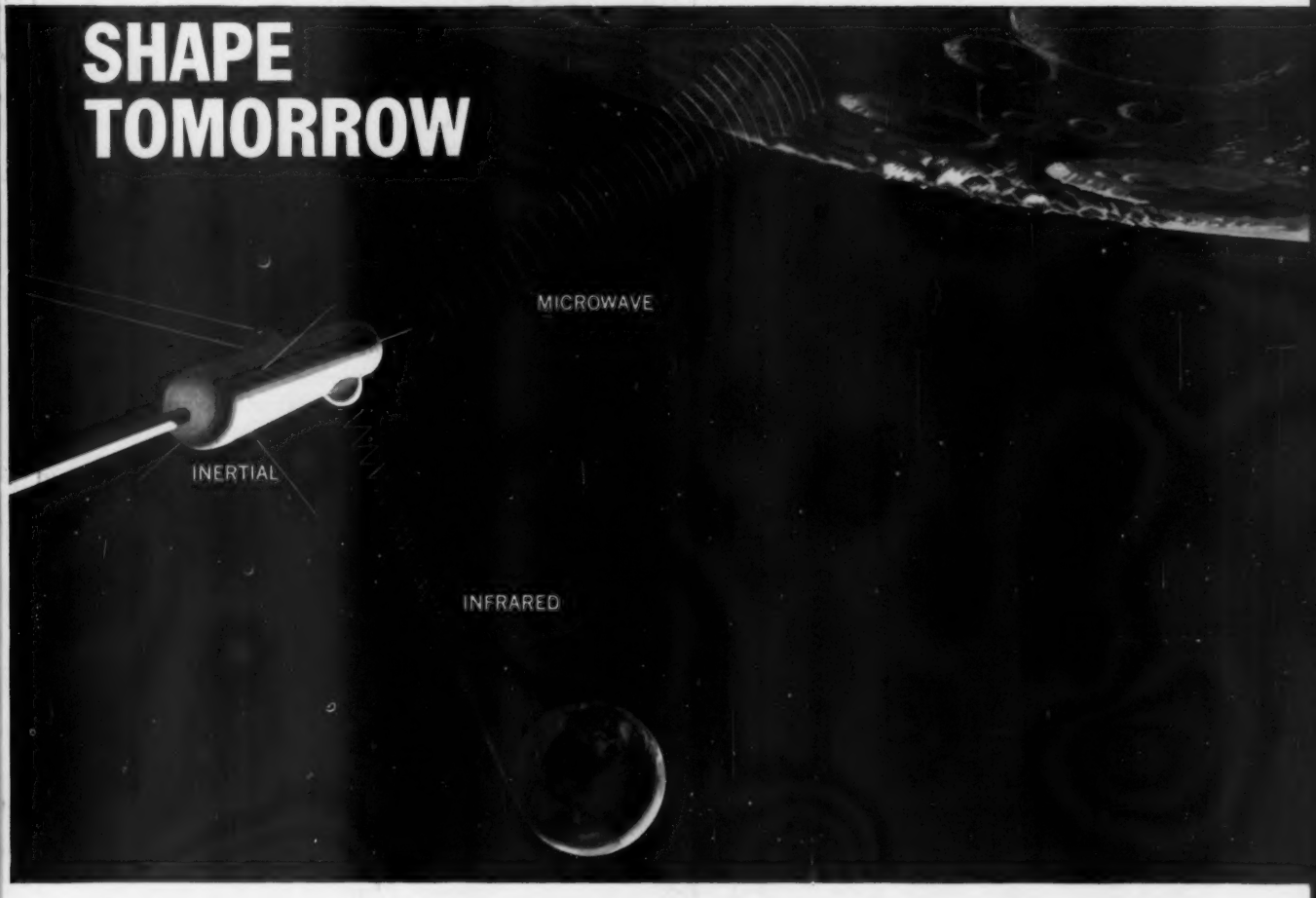

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Lt. General
John C. Oakes
Deputy Chief of Staff for Military Operations

FACETS OF MOBILITY

THERE is a dilemma that faces the military planner as he picks his tools and the means to move them. Every item in the Army inventory must be judged in light of it potential value under every conceivable situation—whether this be against a few guerrillas in a jungle or a massive attack in Europe. The best balance or mix of weapons systems and vehicles is one of the knottiest problems facing your Army. This problem would be difficult enough in isolation, but it is further complicated by dollar and personnel limitations. It is our purpose to examine a few of the related problems with special emphasis on the mobility necessary for a modern Army.

Mobility is not a military virtue in itself. Useful mobility, therefore, depends upon control and purpose.

Also, mobility is not just speed. Mobility has many facets, not all of which are concerned with means of transportation. A soldier carrying a 15 pound load is intrinsically more mobile than his buddy carrying 60 pounds. The same principle applies to a unit. Trimming down to our best fighting weight is a key factor to mobility, strategic and tactical. The unit that has lighter equipment—equipment that does not require excessive maintenance, supply parts and POL—is free to move further and more often than one tied to a heavy logistics tail.

There is little reason to lighten our load and double our speed if we don't know where we are going. To move with purpose and to fire with purpose, we must have more immediate knowledge of the enemy, his intentions, and his movement. To acquire such information we will need faster means of observing the enemy and translating this information into useful intelligence available immediately to the combat commander who requires it.

Mobility, then, poses many questions some of which appear conflicting, if not contradictory.

"How can you attain strategic air mobility if you insist on items like the tank and self-propelled artillery in your weapons system?"; yet conversely "Can you expect to survive an onslaught of a Soviet mechanized division without heavy armored forces?"

"Can we afford an extensive air mobile force with the attending complication, maintenance, and POL requirements?"; yet "Can we afford to be without the responsiveness and flexibility that air mobility offers the ground commander?"

"We need the most sophisticated equipment possible to improve our surveillance capability"; yet "is not this requirement in direct contrast to our desire for simplicity and low cost?"

"Where does strategic mobility end and tactical mobility begin? Is it a matter of miles, of time, or service responsibility?"

Obviously there is no black and white solution to these problems; it is not a simple "either-or" choice between the atomic bomb and the bayonet; the helicopter or the jeep. It is the degree that the Army plans to meet the various threats that will determine the character of our future Army. This involves many hard decisions about issues which are not clear cut.

FORTUNATELY there are a few guidelines which we can use to keep our decisions in focus.

Our primary weapon system is the individual soldier and we must first consider how we can multiply his effectiveness.

We may be forced to suffer some losses on the objective, but there is no point in accepting avoidable losses while going to the objective.

Reaction time will largely determine the victor in future wars.

The Army can afford no expensive new systems which offer only marginal gains in capabilities. It must look to systems that offer a significant advantage.

Strategic mobility gains us little if the Army has no tactical mobility upon arrival at the action; therefore, tactical mobility means must be in place or easily made strategically mobile. This will have a direct realtionship to our staying power.

Every item in our inventory must be designed to operate in the environment of the combat soldier.

The Army has the continuing responsibility of being ready to fight any sort of a war in any part of the world.

Having touched on some of the problem areas and some of the guidelines, I would like to give you some of the trends we see for this decade.

First, it is important that all of the weapons and equipment, as well as the organizations themselves be dual capable. We have moved positively in this direction.

Second, the Army must strike a balance between its deployed forces and truly mobile strategic reserves, and must pre-position certain key items throughout the world.

Thirdly, the answer to the dilemma of "dispersion to avoid massive nuclear attack versus the need for a degree of concentration to accomplish a mission," lies in greater tactical mobility. There will always be times when the soldier must dismount to fight, but our ultimate goal is 100 percent vehicular mobility, ground or air, for all of our combat and combat support units. We are making progress in this direction, as witness the growth of the Army's organic aviation and its ground mobility means.

Fourth, our ultimate goal in logistics has an item of supply leave the U. S. and not stop until it reaches the user. Needless to say, this goal is far from being attained, yet the trend is moving in this direction. We now consider that for the 1965-70 period as much as 25 percent of the dry cargo and personnel movement for the combat zone will be delivered directly by air from the port or a remote base complex. Other items are coming into being to enhance the ground mobility of our logistics system.

And last, our organizations are going through a period of evolution, each step of which is designed to add greater flexibility, mobility and combat power to the various units, and allow us to effectively tailor a force to do a specific mission.

THE basic mission of the Army is not likely to change. The means to do this mission have always been mobility and firepower. The balance between these elements of combat power has swung back and forth throughout the ages. After the violent shift following the explosion of the atomic bomb, the pendulum is now on the mobility swing again. Where the optimum balance might be, no one can tell, but it has become increasingly obvious that one of the best tools of the soldier in this nuclear age, is greater and greater mobility. His only alternative is to hide in a very deep hole—hardly conducive to positive offensive action and not very likely to accomplish the assigned mission.

We see no point in time or no possible situation where the essentiality of your Army will be diminished. The U. S. Army is the basic ground arm capable of, and responsible for, sustained ground combat in any type war. Therefore, our national security requirements dictate that the Army must be strategically and tactically mobile, dual capable, well trained, well equipped, eternally vigilant and always ready.

MODERNIZATION—On the ground and in the air

Lt. General
Gordon B. Rogers
Deputy Commanding General, CONARC

GROUND MOBILITY PROBLEMS

GROUND mobility is not something that can be identified as the product of any single capability; rather, it is derived from the contribution of such factors as firepower, target acquisition, mechanical mobility, command control, logistic support and, possibly most important of all, mental flexibility.

At USCONARC we have defined mobility as "that controlled movement capability which permits the full use and exploitation of combat power to achieve an objective." A definition, however, is not as important as an understanding of the nature and relationship of its several components.

I would like to discuss how the Army will carry

out its mission and how vital to the successful implementation of our concepts a high order of ground mobility becomes.

From the outset I should like to emphasize that our tactical concepts presume neither the use nor non-use of tactical nuclear firepower. However, the very existence of tactical nuclear weapons in the hands of the enemy poses a threat which conditions the battle area of the future regardless of whether or not they are employed. In addition, the lethality of non-nuclear weapons has so increased since World War II that the troop formations employed in Korea, for example, could invite disaster today. This is the dilemma General Oakes mentioned concerning "dispersion for protection versus the requirement to mass to accomplish the mission." Our efforts to resolve this have led to the adoption of dispersed formations of highly mobile forces deployed in depth, imbued with the spirit of the offense and aggressively led, as a replacement for the linear concept in battle.

With the battle area to a depth of as much as a hundred miles, we visualize battalion-size units dispersed in width and depth having mobility and communications which would allow them to converge at the point of attack and to disperse after the attack to avoid becoming a target. We visualize that these units will all have varying amounts of armor and protection from radiation which will allow us to exploit the use of our own weapons promptly. On the defense, the power and lethality of the new weapons will allow them to a great extent to control the intervals between units. However, against a vastly numerically superior enemy we know that our area will be penetrated. For this reason we must adopt the mobile defense which relies upon the counterattack to destroy the enemy rather than trying to hold ground. This defense requires that the greater the frontage, the greater proportion of the force which must be held in reserve so that we may strike the enemy where he makes his major effort rather than waste troops across a front where there is little or no enemy effort.

A SOUND example of the mobile defense was demonstrated by the 1st Cavalry Division in Korea along the Naktong River Line where they had a frontage of 35-40 miles. In this situation the division committed no troops to holding a line. They covered the river front with reconnaissance, held their forces in a multiple division reserve of battalion size across their sector. When they received word that the North Koreans had crossed the river, they waited until a sizable bag had accumulated and destroyed them by counterattack in a double envelopment by two or more of these reserve battalions.

We visualize both our offensive force and our counterattacking force as heavy in armor. In reducing an enemy penetration in a nuclear war, we would explode nuclear weapons over the penetrated area and counterattack with an armor-heavy force. Note that enemy tanks are hard targets. The weapons alone will not achieve our objective. However, the weapons perhaps might destroy one-third to one-half of enemy tanks in large penetrations. The other tanks would have their vision blocks frosted, their antennas knocked off, and they would be in a state of confusion which would allow our armor-heavy striking force to destroy them. The striking force might then locate other nuclear targets which could be attacked with weapons and counterattacked by an armor-heavy striking force in the same way. Operations of this type might achieve results which would allow a return to a war of movement.

Over-all control of the battle will be exercised by the higher echelon with conduct of operations being far more decentralized than in the past. Orders will be of the mission type. Increased dependence will be placed upon the initiative of subordinate commanders.

At this point let me note that, in the Army today, there is a significant effort directed to combat development. It is coordinated by the Continental Army Command under guidance provided by Department of the Army. This effort produces and analyzes concepts for future organization, equipment, and doctrine. Studies made by our combat development agencies are directed toward attaining the smooth evaluation of organization toward greater mobility to which General Oakes referred. These studies not only confirm for the future the tactical concepts I have just mentioned but also stress the need for a continually improved level of ground mobility to permit these concepts to be most effectively implemented.

THE MOMAR concept (see page 55) includes two types of divisions—heavy and medium—both of which are completely mobile; every soldier and every piece of equipment is mounted in some sort of vehicle. Most of these are ground vehicles but included in the concept is a logical and realistically attainable leavening of means for tactical air mobility. For instance, one troop of the four in each reconnaissance squadron is completely mounted in helicopters. Non-divisional units have comparable mobility.

Subordinate units of these divisions have their own built-in capability to move and fight for 300 miles or three days without replenishment of supplies. Divisions are backed up by mobile support groups which carry two to three days of supplies of all classes. One hundred percent of these stocks are mobile at all times.

One step toward keeping our logistics problem within manageable bounds is a provision for only four basic wheeled vehicle chassis. This is representative of our desire to reduce the number of different types of all equipment.

THE Army is not just talking about the requirements for increased mobility; it is taking steps now to improve our combat mobility. For example, just recently, we completed development of a series of radios that will greatly improve tactical communications and eliminate current difficulties of communication between our armor, infantry, and artillery units. In improving communications, command control is strengthened and greater mobility achieved.

Our armored personnel carriers now have a swimming capability while the tactical vehicles we are developing for the future field army will all have a water-crossing capability. The degree to which this will reduce our dependence on bridges and improve our ability to mass at times and places of our own choosing is apparent.

We will not be satisfied until we have acquired the ability to move freely on the battlefield independent of accidents of terrain such as ditches, rivers, or swamps and independent of by-products of the battlefield such as blowdown, contaminated areas, or minefields. How this can be accomplished we do not yet know—a number of possibilities are under study. In the meantime, however, we shall not neglect the less exotic efforts such as reducing the number of items in the supply chain or reducing maintenance requirements to improve logistic mobility and we shall continue to emphasize in all our training that overriding element—mobility of the mind. We are convinced that the efforts we are now taking and the developments we have under way will exploit the potential that advancing technology is providing us a continually improved capability to employ our combat power to best advantage on the battlefield.

MODERNIZATION—On the ground and in the air

Brig. General
Clifton F. Von Kann
Director of Army Avation

AIR MOBILITY PROBLEMS

EVER since man's first flight, it was evident to many that if ground forces could move through the air, rather than on the ground, and appear ready to fight, at critical places on the battlefield, this would be an even better solution to the age-old problem of mobility. The development of airborne techniques was a logical development of this thought and a rather remarkable adaptation of then existing equipment to achieve this goal of moving ground units into combat.

However, the aircraft which have been used in conjunction with airborne operations were not built to stay with the ground units and live on the battlefield so airborne operations have tended to be something of a one shot affair. In addition, the range of the aircraft gave this type of operation as much of a strategic as a tactical significance. And, it would appear that Air Force transport aircraft will be quite vulnerable in the sophisticated war of tomorrow.

For these and other reasons, during World War II and the subsequent trend toward a separate Air Force dedicated principally to air supremacy, there was little development of suitable hardware which could give ground units an organic air movement capability—one which could be used on a continuing basis for a tactical maneuver in and around the battlefield. However, following the separation of the Air Force, stimulated by unexpectedly successful helicopter operations in Korea, and now further facilitated by the turbine powered helicopter and excellent STOL fixed wing aircraft, these capabilities are at last coming within our grasp.

It is most significant that this development should come right now. As a matter of fact it is virtually essential for the future success of ground operations that the Army should achieve a true degree of air mobility at this time. Air mobility is a necessary outgrowth of many factors impinging upon the military outlook for the '60s and possibly for many decades to come.

THIS is the challenge to Army aviation—to provide our commanders with the ability to move three-dimensionally at a speed at least four times as great as our troops have been able to move in the past. This challenge implies an around-the-clock capability without being anchored to a logistics tail. It further implies a reliability and dependability equivalent, at least, to our current ground modes of transportation. Our overriding requirement is for aircraft that are ready to fly when the soldiers whom they serve are ready to fight. This aircraft must live in the environment of the soldier, and have the ruggedness required of any equipment in the combat zone. And it must fly at minimum altitudes to stay out of sight in the so-called nap of the earth and below the radar screen. Hardware such as this will give commanders undreamed of new capabilities. The only limitation in application will be their own imagination.

The characteristics I have mentioned pose real problems to research and development. As General Oakes mentioned in many cases the Army's requirements are conflicting, if not contradictory. This is particularly true of our aircraft. We ask for simplicity and ruggedness yet we desire the most sophisticated of surveillance means and the capability for all-weather flying. We want to work out of short, unimproved airfields, or no airfields at all, yet we do not want excessive complication or fuel consumption to gain this capability. We would like to assign these aircraft to the lowest echelon yet maintenance and logistics considerations tend to pool aircraft at a higher headquarters.

I believe we are moving in a direction to solve some of these problems, if not all. With turbine power, longer life components, and a reduced family of aircraft designed specifically for the combat environment, we hope that some of our air mobility goals may soon be reached.

Now there is a much more subjective part to the problem of air mobility which I have chosen to group under the loose title of "The state of mind." For example, we can observe, communicate, navigate, and shoot from the air—as well as move through it. But our present organization does not lend itself to maximum exploitation of these capabilities for each branch tends to think of its own needs. Fortunately, units are being developed which combine these capabilities into air reconnaissance and air fighting units in the form of Air Cavalry. Such a unit, where every man has a seat in a helicopter which carries its own support weapons and air vehicles, epitomizes the very essence of responsiveness. I believe it is safe to say that this organization will be the forerunner of many similar type units as the Army moves toward greater air mobility. If we are to be really responsive, to move to the decisive battle point through the air, we can no longer afford to think of Army aviation as a handy tool for observation and limited taxi work. We must begin to integrate aviation and combat organizations completely. We must stop regarding aviation as a luxury item in the Army's equipment category, but rather view it as a basic means of maneuver and movement.

All innovations in military history have been received with opposition or indifference; and air mobility is no exception. It is easy for those determined to maintain the "status quo" to bring up reasons why aviation is too expensive, too complicated, too limited, and too difficult to use in large numbers in a combat situation. However, it has been heartening to see the trend in our service schools and in many of our units to more and more use of even our limited current aircraft.

For example, last fall we saw the activation of the Aerial Reconnaissance and Security Troop and the successful test program which followed. USAREUR has employed similar experimental units in many recent maneuvers. Thus Air Cavalry is becoming a reality. Serious efforts to develop complete weapons systems for the helicopter have been initiated. The mating of the guided missile and the helicopter have given a point-to-point capability for the first time. The 1959 Worldwide Combat Arms Conference at Fort Sill also recognized the importance of air mobility and stressed that during the 1960-1970 decade the Army must greatly increase its capabilities in this area. Finally, the Army Aircraft Requirements Review Board has recommended a substantial growth in the entire aviation program. All these are indications that the Army is moving to a recognition of the essentiality of the air vehicle.

We still have a long way to go and many problems to solve. These problems involve hardware, personnel, logistics, and above all acceptance of the basic premise of air mobility. It will not be solved entirely in the next ten years, but it will never be solved if we do not move ahead this year and every succeeding year with an ever expanding but balanced growth in our aviation program. It is not enough to set our sights on 1970 if we have not set intermediate goals to stimulate the necessary day-to-day decisions. We need celerity in this phase of our planning if we hope to have celerity in our future units. There is a tendency to put long-range plans in the dream category without especially worrying about how such plans might reach reality. If we let air mobility fall in this category because of the lack of an ideal flying carpet to meet our aircraft requirement, we are in danger in failing in our basic purpose—to give our commanders the tools for a thrilling new breakthrough in mobility.

PROGRESS REPORT—Organization, Training and Leadership

General Bruce C. Clarke
Commanding General, Continental Army Command

CONARC'S POINT OF FOCUS

IN addition to its command mission, United States Continental Army Command is engaged in many activities required to prepare the field army for its role. Among our functions is the development and testing of doctrine, organization, tactics and techniques and the training of units and individuals of all components of the Army. In short, it is CONARC's mission to put the "Army-in-the-field" ready for sustained action. Thus, CONARC is the point-of-focus on which the coordinated efforts of the Army-Science-Industry Team are oriented.

The Army-in-the-field will be the one team consisting of the Active Army, the Army National Guard and the Army Reserve. They are ready to take to the field and begin operations promptly and effectively as One Army. Initially, our One Army may be only those units and groupments prepared to meet the early phases of our mobilization schedules—such as STRAC and certain augmentations. But we cannot lavish all our attention on them alone. We require the full participation of all components and must include them all in our planning and preparation.

In preparing our Army for the field today, CONARC, like all other related agencies and activities, must also plan ahead. The Army must be prepared to respond to the missions anticipated in the present 1960s, the 1970s and future timeframes. CONARC's job is to assure that the organization, training and leadership of the Army is of a type and standard to match these future missions. This is the Challenge of the Future.

This challenge must be met on the same stage with the political, scientific, and technical changes of today and tomorrow. Applied to the actual creation of a ground Army, we consider the challenge of the future to have these five major facets:

(1) The challenge of flexible response
(2) The challenge of technological change
(3) The challenge of readiness
(4) The challenge of professional adaptability, and
(5) The challenge of confidence.

Since these refer directly to CONARC's mission in the creation of an effective modern Army, it is now our pleasure to show you some of our progress in meeting these challenges.

PROGRESS REPORT—Organization, Training and Leadership

Colonel George T. Metcalf
Plans Division, Combat Developments, CONARC

THE MOMAR FIELD ARMY

HISTORY has shown that weapons, tactics, and technology over time usually become equally available to substantially equal major powers. There has always been an advantage, however, to the more imaginative and energetic side, who, through constantly improving organization,

brings tactics and weapons together more effectively and thus keeps doctrine and concepts ahead of technology, production and actual warfare.

Within the Continental Army Command's Combat Developments System, we apply fundamental research and creative study to each organizational and management area or activity in the same manner as they are applied to the areas of science, technology and tactical doctrine.

We consider these seven operational factors: disperson, mobility, protection, firepower, control, surveillance and support.

These factors describe a modern mobile army's combat operations in a major war of the future. The emphasis given any one of them will vary with the scale of conflict and the geographical environment.

When taken together, however, they establish clearly the basis for significant and evolutionary organizational changes needed in the Field Army. They also point up the direction these changes should take.

Concepts for evolutionary organizations are much influenced by:

(1) Estimates of the most likely enemy; his organizations, equipment, tactics and capabilities.

(2) Estimates of the most likely military, political and geographic environments in which army forces must be capable of operating.

(3) Estimates of equipment we can have in our Army units based upon the state-of-the-art in technology, budgetary limitations and manpower limitations.

(4) And finally, practical experience gained from combat, coupled with scientific, technical and military evaluations of field experiments.

Improvements in organization of the future Field Army appear possible of attainment within these broad areas:

(1) Responsiveness to command
(2) Multi-capability
(3) Sustained combat effectiveness
(4) Controllability
(5) Battlefield and strategic mobility
(6) Austerity of support

I will touch on these areas in mentioning just a few specific and selected organizational trends.

Beginning at the lowest organizational level, the squad, and proceeding upward, we believe units should be smaller and lighter, and have a built-in improved capability for independent or semi-independent operations in any condition of weather or visibility and in any scale of war.

For example, we have proposed a small squad of only seven men, equipped with automatic and semi-automatic, point and area fire, anti-personnel and anti-materiel weapons, and mounted in its own ground or air vehicle. Its small size improves control and leadership by the squad leader and contributes to mobility. Its weapons and equipment increase its lethality and decrease its vulnerability, in comparison with the infantry squad of today.

Within the combat Field Army, organization and training start from the bottom up—rather than from the top down. In these days of glamor missiles, massive weapons, automated procedures and high speed movement, the tendency too often is to forget a fundamental principle. The effectiveness of the Field Army in battle results from the unity of combat power, on the ground, applied by several thousand well-equipped and trained squads, tank crews, and gun sections.

For the same reasons of improved control, greater lethality and increased mobility, accompanied by decreased vulnerability in semi-independent operations, we believe the trend should be toward smaller platoon and company-level organizations. We visualize 35-man platoons of three rifle squads, a weapons squad and a headquarters. The company strength of 150 will consist of three rifle platoons, a support platoon, and a headquarters.

Enemy capabilities in diversified weapons and numerical superiority have multiplied. To offset this, beginning at company level, an order of magnitude increase in firepower, communications capability, and organic mobility must be achieved in our forces over the next few years.

The company as a whole should be organized and looked upon as a single multi-capability weapons system. Organic to it should be multi-purpose close support weapons capable of delivering high volume firepower, including conventional, flame and, when authorized, chemical and low yield nuclear, on a selective basis, but from the same tubes.

Mobility and maneuverability should be enhanced by organic wheeled or armor-protected track-laying vehicles; or in certain instances air vehicles.

Now let's turn to the division and higher levels of organization.

FIELD tests, exercises, studies and war games have supported the soundness of the Army's Pentomic concept at divisional level. This concept, with an improved reliable communications system, expands and exploits the commander's span of control. It also enables him better to meet the requirement for integrated combined arms operations by small battle teams operating more or less independently over larger areas and under dispersed conditions both in width and depth.

Here in rather broad outline is the trend in future divisional level Pentomic organization. The five combat commands are integrated combined arms forces organized for a high degree

of self-sustainability in independent and semi-independent operations.

Past and present doctrine has prescribed the division as the basic echelon of combined arms and services. We now believe that an appropriate organizational trend for the future is to integrate this capability one echelon lower.

Under several conditions of foreseeable warfare against a sophisticated enemy, a combined arms team of combat command size may be forced to conduct operations independently over an area as large as that often assigned to a division in World War II.

Worthy of note also is the administrative support organization. Experience with current airborne divisions, together with recent field experiments conducted by the Seventh Army in Europe, indicates many advantages can be gained by combining the various divisional service support units under one service support commander. By so doing, logistical support within the division can be approached on a functional basis of maintenance and supply, rather than on a vertical basis as in the past.

We visualize that over the next decade two types of divisions will continue to be required within the Field Army. Their Pentomic organizational structure should be very similar. One type should be a heavy division, strong in heavily-armored tanks, armored artillery and track-laying armor-protected personnel carrier vehicles. The other should be a medium division, also equipped for sustained mobile combat, but with much reduced emphasis on heavy armored vehicles.

Strategic mobility of the medium division, by air or surface transport, would thus be somewhat greater than that of the heavy division.

Within the next five years, in both divisions, a requirement is foreseen for approximately twice as many army aircraft as are authorized today.

A type field army appropriate for the widest range of contingencies foreseeable in unilateral, joint or combined operations of the future would be quite small, containing a combination of only six medium and heavy divisions. It would have a balance of non-divisional combat, combat support, and service support units.

Some of the types of non-divisional units we have today will not be required in the long-range future. Combining functions will enable us to consolidate and reduce the size of other units.

This small, compact, self-sustaining Field Army organization offers many advantages. It is readily employable in a sophisticated, large-scale, coalition-type war on an extensive land mass such as Europe. There it would operate under an international joint and combined Army Group echelon within a NATO-type structure. It is equally adaptable to conflict of lesser scale, perhaps in a lesser developed geographical area, where it would likely operate in conjunction with comparable or smaller organizations of one or more of our allies.

Careful study has been devoted to streamlining the chain of command. This speeds decision and reaction time in both operations and administration. Non-essential headquarters have been eliminated. They bleed personnel strength from operational units. More important, they can generate immobility, inertia, inflexibility and indecisiveness, none of which can be afforded in future warfare.

I HAVE mentioned only a few trends in organizational concepts related to unit structures. A few words about trends in organizational procedures and techniques are equally appropriate.

Field experiences, coupled with study and analysis by service schools and military and civilian research groups, have demonstrated that each area of staff activity bears primarily on one of the two major functions of field command; the operative function, which accomplishes the primary mission of the command, and the administrative support function which supplies, maintains and restores the operative means, whether machines or men.

The trend of the future should be to formally recognize, in doctrine, the primacy of these two functions. The staff should be organized into two major directorate-type staff groupments: Tactical Operations and Administrative Support.

What is being suggested is the evolutionary abandonment, at field army and divisional levels, of the conventional general and special staff concept as we have known it and the adoption of a new structure more compatible with the requirements of modern warfare and more speedily responsive to the needs of the commander and the subordinate elements of the command.

Under this concept, the Division or Army commander would normally deal with and through only four principal members of his staff—the Deputy Commander, the Chief of Staff, the Director for Tactical Operations (DTO) and the Director for Administrative Support (DAS).

Specialist advisors, as appropriate to the primary function—whether operational or administrative—would be an integral part of each directorate.

The Directors would not command or operationally control any units. They are staff officers. They command only those staff elements of their respective groupments. They would exercise directional and coordinating authority over subordinate elements of the command within announced policy, authority and mission assignments of the commander or his deputy.

Confidence is the one critical ingredient of success we cannot order or allocate. Although it is nurtured from external sources, it must come from within each of us. Not from some of us or most of us—from all of us. The challenge of confidence is the challenge of the future. Armed with confidence that the Army will perform its role gives us the energy to whittle obstacles down to stepping stones. Because confidence is the mortar with which our combat readiness foundation is bound.

— GENERAL BRUCE C. CLARKE

Day-to-day operational staff activities should be conducted through a Tactical Operations Center, located at or near the main or forward command post, and an Administrative Support Operations Center deployed well to the rear where it can also function as the rear command post. Through the employment of a high-speed, secure, long-range, Army-area-type communications system, and automatic data processing techniques, each of these centers should have the capability of serving as an alternate to the other during displacements, or during the period of recovery following loss of one or the other.

To those of us in the planning and operational areas one warning note rings loud and clear:

We can easily price the Army out of both the manpower and the money markets if we continue to insist on hanging on to all those items which helped us win the last war, while demanding those of vastly improved capability which technology and production can make possible to help win the next. Realistic progress in modernization requires awareness of the boundary markers of the budgetary ballpark.

We must pare our field units to the minimum numbers of different types of absolutely essential weapons and equipment. These must be items that are usable in any situation and are multi-capability and multi-purpose in nature.

Logistical mobility, just as important as tactical and strategic mobility of combat units, can only be achieved through ruthless austerity and markedly improved organizational procedures.

Within the next few years, organizational concepts for logistical support within the Field Army should achieve these goals:

(1) Small balanced depots
(2) Scheduled supply
(3) Automation
(4) One-stop maintenance
(5) Reduction in pipeline time
(6) Through shipment
(7) Integration

We will need smaller and more mobile balanced depots dispersed in width and depth throughout the field army combat zone.

In each class of supply, we must identify every item of more or less average usage rate. These should be moved forward to the user on a scheduled basis without regular and routine request.

Many of the principles of automation learned by industry should be adapted to operations within the field army area—certainly automatic data processing techniques can reduce the vast amount of communications and paper work now necessary in the requisitioning, distribution and storage of supplies. Project MASS in Seventh Army has made remarkable progress toward this goal.

When maintenance is needed, it should be available for any equipment item from one source at one location.

Through greater use of scheduled supply, increased use of aircraft in supply distribution, minimum in-transit handling, and automated procedures, a major reduction can be made in the time items are in the pipeline. Reducing time directly reduces quantity!

Horizontal integration of Army service support units within forward support and general support command structures will enhance more rapid, responsive logistical support.

A COMBAT condition which places a high premium on leadership, speed of decision and execution, and the ultimate in coordination of vast amounts of highly sophisticated combat power, demands the utmost in simplicity and streamlining of organization for combat—tactical as well as logistical. This is the organizational challenge of the 1960-70 decade.

In this connection, it is imperative to dispel any image from the military or public mind that the Army is organizing and equipping for combat against one specific enemy, in one major geographic area, using primarily nuclear tactics with their associated weapons and corollary systems, to achieve only one objective, in only one type of war.

As a point of fact, the trend in Army organization must be the opposite.

We need to build, and maintain constantly ready, a multi-capability organization which can perform any role on the ground in cold, limited, or general war, any time, any place, under any circumstances. This covers a graduated scale of

conflict ranging all the way from the use of bare hands in a cold war action to exploiting, in the best of our national interest, the aftermath of megaton bombardment—if such ever comes.

The future organizational trends very briefly treated here can come to fruition within the next few years.

They will be realized with your continued support of the one army concept and a responsive research and development effort.

PROGRESS REPORT—Organization, Training and Leadership

Major General
Louis W. Truman
Deputy Chief of Staff for Operations, CONARC

CONARC'S TRAINING MISSIONS

THE Army School System is a very vital part of the CONARC training plant.

That a good school system pays off on mobilization is attested to by the fact that our Army was able to expand from a strength of 300,000 officers and men in 1940 to approximately 8 million in 1945. Mr. Churchill took note of this when he said, "to create great armies is one thing; to lead them and to handle them is another."

Whether Mr. Churchill intended it or not, he was, in fact, paying tribute to our school system which is organized to prepare our peacetime Army for future warfare.

The Army School System consists of 33 schools and 2 colleges.

During the last two years, CONARC has obtained significant results in reducing course lengths, eliminating "nice-to-have" courses and tailoring course content to meet essential training requirements. Through these intensified efforts to reduce time spent in school and costs of school operations, we have reduced the daily school load by approximately 8,000 students, thus increasing the number of personnel that can be made available to the tactical units of the Army in the field.

I feel that I can say without hesitation that we have the most advanced, all-inclusive, school system of any Army in the world today. It is a viable system, that can be changed to meet the demands of the modern battlefield.

Let us turn now from the schools system to the "challenge of readiness." In meeting this challenge one of our most important jobs is keeping the Strategic Army Corps—STRAC—trained and ready to move.

STRAC is ready at all times to reinforce promptly our forces overseas, or to be deployed independently to other areas where no United States troops are now deployed. It is a well balanced combined arms force of many units, built around the 101st and 82nd Airborne Divisions and the 4th Infantry Division. It is a force that can be employed, either as a whole or in part, to meet the precise demands of any situation to which it is committed.

In an emergency, the entire force is prepared to move out to any part of the world. Advanced combat elements of the 101st Airborne Division at Fort Campbell, Kentucky, are prepared to load aircraft within one hour after receipt of an initial alert. Certain elements of the 82d Airborne Division at Fort Bragg, North Carolina, are prepared to load within three hours.

The entire 4th Infantry Division can leave Fort Lewis, Washington, within 90 hours.

In contrast, just one decade ago—in June 1950—our armed forces—faced with an emergency in Korea—did not enjoy such a posture of readiness.

The dynamic training, mobility exercises and far-flung field exercises that STRAC units carry on, under CONARC supervision, assure that those units are ready to go anywhere in the world in support of our national objectives.

WE must not overlook the training required for other Army forces that are earmarked to replace or reinforce STRAC units, when the latter are deployed.

We can accelerate the training of these forces by means of intensified combat training programs in the event of mobilization. We have reduced the time to eight weeks that active infantry and armored divisions will require for unit training.

We are convinced that by adding an additional

five weeks to this program, we can turn out selected Army Reserve and National Guard Forces as combat ready units in 13 weeks.

This additional five weeks gives the reserve unit an opportunity to shake down and to integrate reinforcements at its mobilization station. Also, this permits the unit to perfect its small unit teamwork, prior to launching into the eight weeks of accelerated unit training.

It is a real pleasure for me to report that our Army Reserve and National Guard units are now in their highest state of training that they have ever achieved in peacetime.

The constant influx of trained men, including both six months trainees and men with two years or more active service, has materially improved the mobilization posture of the National Guard and the Reserve.

In step with technological progress, some of our most significant training accomplishments have been in the field of missiles. The scope of our missile training ranges all the way from teaching individual missile-men to fire SS-10 anti-tank guided missiles to the highly sophisticated and complicated surface-to-surface and surface-to-air missiles.

ONE of our most complex training problems, though, has been in the field of combat surveillance and target acquisition. This is the finding and fixing of enemy targets, particularly those with an atomic capability, and to bring those targets under effective and timely fire, before those enemy weapons can deliver fire upon us or before they disappear. The scope of this problem has been broadened considerably by the development of weapons that have greatly increased ranges, and some of which that have nuclear capabilities. Since equipment necessary to conduct this training is extremely expensive, and is in very short supply, we have pooled much of it in one training command at Fort Huachuca, Arizona. There, specialists are trained in the operation and maintenance of combat surveillance equipment, including ground surveillance radars, airborne radars, and a pilotless aircraft surveillance system in the form of drones that take aerial photographs.

As this new surveillance equipment becomes available from production, it is being delivered to high priority tactical units, which will give those units an interim capability in the surveillance field.

Through training research, we are constantly seeking ways and means to produce better-trained soldiers and units in the shortest possible time. The Human Resources Research Office (HumRRO) of George Washington University is the agency available to CONARC for this purpose.

Soldier-scientist teams work at the task of solving training problems at the Infantry, Armor, Air Defense and Aviation Centers. Since it takes as long as 45 weeks to turn out certain air defense technicians, there is a real need for this research assistance.

I want to assure you that, with all of this scientific and technological progress, CONARC is not forgetting the hallmark of the soldier's trade—individual marksmanship. 1959 was the most successful competitive marksmanship season the Army has ever had.

I HAVE discussed with you some significant accomplishments in the Army School System, STRAC readiness posture, and the operation of our training system. We very definitely are making our training more effective—at the same time we are conserving our resources of men, money and materiel. We are responsive to technological changes, and we are integrating these changes into our training system as materiel becomes available.

PROGRESS REPORT—Organization, Training and Leadership

Brigadier General
Loris R. Cochran
Deputy Commanding General, Fort Jackson, S. C.

TRAINING THE BASIC SOLDIER

THERE has been a great deal said about today's new recruit; that he is different from his counterpart of ten to fifteen years ago; different mentally, morally, and physically.

Regardless of an individual's background, there are certain outstanding fundamentals that we consider the keys to the successful development of young men into combat-ready soldiers.

The first of these principles is desire. Without desire on the part of the individual, all our training effort is wasted.

The second principle is confidence. If there is a lack of confidence in himself, his weapon, or his fellow soldier, the individual is ineffective on the battlefield. Most important of all—the man must have confidence in himself.

The last of the fundamentals necessary for the creation of a combat ready soldier is ability. It is this ability to fight, to survive, and to win on the battlefield of the future that we must develop at the training centers.

Today's modern Army finds the individual soldier on a more complex battlefield than ever before in the history of man. To prepare the basic soldier for this complex role, modern training has had to keep pace with modern equipment, organization and advancements. The basic soldier is a brand spanking new member of the Army, and, looking at him in the mass, this is what we find: The training input into basic combat training companies is about fifty percent Active Army and fifty percent Reserve Forces Act personnel of the National Guard and Army Reserve. In keeping with the One Army concept we do not make any distinction between components. They take the same training at the same time and in the same units.

The present vitalized training program is now conducted in two distinct periods, basic and advanced. Previously, a recruit received sixteen weeks of training pointed at the particular branch of the Army to which he was to be assigned. It has been proven that certain combat skills are desirable for all soldiers in the modern Army, whether employed at a radar set, as a light machine gunner, as a cook or in any of the other jobs a soldier might be assigned. These common, desirable skills are today included in basic combat training, the soldier's first few weeks in the Army. What is our approach to the problem?

FOREMOST in our objectives for basic combat training is the development of self and unit discipline which is the forerunner of morale, esprit de corps, and proficiency. Each individual is imbued with the necessity for discipline. We feel, and teach, that without discipline, we would never have the Army the nation expects and demands.

To inspire the raw recruit to patriotism, self-respect and feeling of his obligations we indoctrinate him in the Code of Conduct, military courtesy, and history and traditions of the Army and the United States.

A fundamental precept is that a trainee who cannot give or get the word is ineffective. We give our basic soldiers training in the ability to communicate and to understand. If you were a commander receiving replacements from a training center you could be sure that your basic soldier could at least understand every order they could be expected to receive. Many of them will be already experienced in formulating and issuing orders themselves. They will know the channel of command and the rudiments of technical communication on the battlefield.

Trainees no longer receive instruction in rifle marksmanship only on the known-distance ranges using conventional bull's-eyes. Instead, trainees fire at electrically controlled pop-up targets at unknown distances and in varying degrees of visibility. Any hit, including a richochet, on the silhouette type target used is a kill, and the target automatically drops. The trainees see immediately the results of their shooting.

The basic soldier also receives instruction in the techniques of movement and individual protection. Extensive training in self aid, to include field sanitation, first aid and hygiene, teaches our soldier to take care of himself and his buddy on the nuclear battlefield. Land navigation, a recently added subject, teaches them how to move from place to place on this nuclear battlefield. Basically, this technique enables a soldier to negotiate terrain effectively by use of a combination of dead reckoning and map-terrain association.

PHYSICAL training, given the recruit every morning before breakfast, is also integrated into other training. Other subjects, such as bayonet, hand-to-hand combat, and the confidence course, contribute immeasurably to the trainee's fitness.

The ability to march cannot be omitted from a discussion of physical fitness. It has been estimated that the basic trainee marches some 250 miles during an eight week cycle of basic training. There is a marked difference between the young man who enters our reception station as a bewildered, raw recruit and the soldier who stands tall, willing and able on graduation day eight weeks later. He gains an average of 7.6 pounds of muscle in this period. But this gain is more than offset by some men losing as much as thirty pounds of flab.

To help re-emphasize certain instruction we use a system of integrated training. The basic soldier, as he is participating in a foot march to a bivouac area, will be subjected to a chemical attack, an aerial attack and may even meet an aggressor. Thus the foot march, designed to teach the techniques of marching and to condition the basic soldier physically, also integrates the teaching of chemical, biological and radio-

logical warfare, air defense, combat intelligence, and squad tactics. Integrated training saves time and is lively and interesting.

I WOULD like to interject a note here very briefly about advanced individual training programs. Generally, we conduct two types of advanced training. One for the purely fighting elements and the other for the common specialist needs of the Army as a whole. The common specialist training takes the soldier from basic combat training and adds the skills that are needed to make him a driver, mechanic, clerk, signal wireman, or radio operator as well as a fighter.

Adjusting our basic soldier to military life quickly and effectively during the intense, diversified program of training requires a superior noncommissioned officer. This type of noncommissioned officer, experienced and well trained, is available to the modern Army. Noncommissioned officers in today's Army are being given increased training and leadership responsibility.

This is a picture of basic training as it is today and how that picture is constantly changing to keep abreast of the challenges that face the Army in the 1960s. I wish to assure you that the product of our training centers is a worthy soldier of the Army and the United States.

PROGRESS REPORT—Organization, Training and Leadership

Major General
Lionel C. McGarr
Commandant, Command and General Staff College

TRAINING THE ARMY'S LEADERS

I am honored to talk about the important subject of Leadership and Leadership Training with this highly knowledgeable group. My discussion will generally cover the overall leadership objective of the Army School System, with particular emphasis on how the United States Army Command and General Staff College discharges its responsibilities in the vital business of developing commanders with the required leadership qualities. This discussion will naturally be colored by my own ideas and experience, as leadership is a very personal quality. A quality aptly described as a mixture of example, persuasion, and compulsion, as well as an extension of the leader's personality and character into his men. Therefore, it follows that this extension can go no further than the leader's *own* personal qualities in this respect—whether they be physical, psychological, or moral.

The major objective of the Army school system is "to prepare its students to perform those duties which they may be called upon to perform in war—with emphasis on the art of command."

"Command" in this context, however, must not be considered as a function which draws its power of direction solely from the authority vested by rank or position. Rather, the cutting edge of the "tools" of command must be knowledge, competence, and integrity. More specifically these tools must encompass understanding of soldier psychology as well as familiarity with organizations and supporting weapons systems. From the squad "leader" to the Army "commander," vested authority is neither sufficient nor the key to success; it is leadership applied in required and varying degree by the commander which is the heart of the "leader-follower" relationship. Consequently, the top authority in any unit or organization must develop and employ his *personal leadership* qualities in fully exercising his function of *command.* Therefore, it follows that each potential leader must develop the qualities necessary for the successful exercise of command in consonance with his own strengths and weaknesses.

It is through training and education that we disprove the old cliche that "leaders are born—not made." The objective, the daily job of the Army School System is to produce commanders who are leaders. Commanders who are forceful, dynamic, aggressive, and able to make sound decisions. Commanders who, under continuous physical, mental, and moral pressure can endure, think and act confidently and inspiringly. Commanders who will, regardless of circumstances, unfailingly produce results. Let us now consider how this is accomplished.

Under the overall direction and guidance of USCONARC, each Army school and college is con-

cerned with a particular level of command and and leadership instruction. And, each successive step up the service school ladder is designed to strengthen and reinforce past training as well as to move forward to broader considerations at each higher echelon of command.

At branch school level the principles of leadership, leadership traits, and basic aspects of human behavior are examined and learned in detail. Students are trained in methods, techniques, and procedures for developing individual and unit esprit, morale, discipline, and efficiency which are characteristic of a successful well led outfit in either peace or war. Equally important, they are trained to recognize deficiencies in these areas and to take timely, corrective action.

This phase of leadership training for our junior leaders is especially important for the future as well as immediate application. Although there is marked similarity in leadership principles at all echelons of command, the techniques and degree of application vary widely. At lower levels, leadership and command appear to be almost synonymous. At intermediate and higher levels this is no longer so true, as broader knowledge, the ability to strengthen leadership capability in subordinates, high level managerial competence, and the like become increasingly important, and leadership merges into the more all-encompassing responsibility of command. However, at all levels, I am convinced that leadership is the most essential single element of command.

Therefore, I feel that the USACGSC is the keystone of the Army Educational System in higher level leadership training and education. Its students, specially selected officers from all of the arms and services, form the hard core of middle leadership today—who will become the top level leaders of tomorrow. The College objective is to produce commanders and general staff officers who can think objectively, decide logically, and operate effectively in their primary role of military problem solving and decision making at higher echelons. This requires the full development of the physical, mental, psychological, social, and moral aspects of the officer.

BECAUSE of its "generalist" rather than "specialist" type of mission, the entire Leavenworth curriculum is oriented on the art of command; on developing proficiency in the efficient and effective use of men, materiel, and money in accomplishing the Army's missions. The number of curriculum hours devoted to specific instruction in such subjects as leadership, case studies involving the psychology and environment of leadership, management, general staff subjects, and the like, is but a small part of the student's total "learning experience" in the overall exercise of command. The payoff comes in the approach to the problem as an entity—the full and complete integration of practical work throughout the curriculum in all aspects of staff and command at division, corps and field army level.

In a framework of realistic worldwide problem settings and different forms of war, the student considers problems of progressively increasing complexity in tactics, administrative support, and other allied matters. By solving problems and making decisions as a commander or general staff officer, he learns coordination and cooperation without sacrifice of principle. He is encouraged to think critically, independently, and creatively in practical situations which are designed to further strengthen and test his professional growth and competence, as well as his mental and moral courage. Our field-oriented exercises place the students in responsible roles in situations which progress logically and realistically. In order to nurture, develop, and promote the qualities of higher level leadership through these practical exercises, decisions and orders are always required. This forces the student to isolate the problem from the command or general staff viewpoint and actually come to grips with the basic issues involved.

Leavenworth's responsibility is not confined to "career courses" alone. In both our nonresident program which reaches 20,000 student officers and in our shorter resident courses, such as the annual refresher courses for commanders and staffs of the National Guard and Army Reserve divisions plus maneuver area commands, and logistical commands, the emphasis is likewise on the art of command. These specific programs are modeled on our completely modern longer courses and are tailored to the actual requirements of the reserve components.

THUS the Army school system plays its part in developing and nurturing the all-important leadership environment throughout our Army. For leadership is not merely an individual matter. Each leader in the chain of command contributes to this over-all "climate of leadership" which requires an efficient smooth-running command and staff team. This, of course, is Leavenworth's major job. For leadership is concerned with the ways in which man can be inspired and motivated to respond to command. And we are convinced that their training must be oriented not only on the tangible aspects — the physical and mental sides of leadership development, but also on the intangibles—the moral and ethical side as well. This follows because the only motivations which are capable of sustaining men under great stress and responsibility are those of a spiritual nature. Therefore, Leavenworth continues to strengthen

the character and ethical standards of its students.

But what of leadership development in the future? We must prepare for significant changes in the configuration of battlefields, in types of organizations and equipment, and in tactical and administrative concepts. We must be capable of functioning on "mission type" orders—and with an absolute minimum of support or command supervision. With the future battlefield as the setting, Leavenworth students are taught to assess its impact on future leadership. Basically, however, leadership development for the future will be accomplished by our graduates in command, staff, and school assignments. To ensure that our students do not neglect this all-pervading aspect of their future duty, our present courses are designed to make them face the increasingly difficult and complex problems of future command and leadership *now—now* when the price of mistakes and errors in judgment is grades, not life and limb.

PROGRESS REPORT—Organization, Training and Leadership

Major Harold D. Pinney
U. S. Army Infantry School

THE SOLDIER ON THE BATTLEFIELD

As we face the challenge of the future, what of the soldier's ability to meet it? Where is he going and how does he hope to get there? For the answers to these questions, it is necessary to consider first the operational environment for the battlefield of the future, an environment in which tactical nuclear weapons will either be used freely or, at the very least, will be a threat hanging over the heads of any forces on the battlefield.

I wish to emphasize three things which best characterize the modus operandi of the soldier of the future: greater firepower, greater mobility and improved command control.

As we visualize it, the lightweight but tougher-than-steel helmet provides protection from small arms and shell fragments and, when the polaroid face piece is slipped down, from nuclear flash and from chemical and biological agents.

Fitting within the configuration of the helmet, his microminiaturized and printed circuit radio enables him to transmit and receive messages at distances up to 500 meters. His clothing is light, durable, and impervious to thermal effects. Through the use of printed circuits on cloth fed by a belt battery, constant body temperature is maintained. A lightweight armored bodice protects the body from the neck to the hips. His boots are constructed to withstand the elements as well as CBR contamination and small nuisance mines. His bayonet or fighting knife is strapped to the side of one boot. The packet of explosive foxhole diggers on his chest provides a quick means of digging in.

The all-purpose, hand-held weapon possesses a dual capability. It can fire both point and area fire, automatically or semi-automatically. The ammunition will be lightweight, thereby enabling the fighter to carry large quantities of the small caliber rounds in one drum and a considerable number of the area type rounds in a second drum. This weapon will provide every member of the squad with the capability of projecting highly lethal area type munitions and, therefore, result in a tremendous increase in firepower potential at this level.

He will carry energy thrust propellants, which enable him to rapidly cross fire-swept areas and to leap down, across, or up obstacles of minor size.

Now for a brief portrayal of how, based on preliminary study, the soldier of the future and the basic battlefield units of which he is such an essential part will live and fight in combat.

Offensive and defensive operations tend to become indistinguishable with the primary mission being destruction of enemy forces. Taking and holding the initiative is of the utmost importance since opposing forces will possess the capability to destroy each other. Units, mounted in armored personnel carriers or air vehicles, will shift their positions frequently and in accordance with an over-all plan, taking full advantage of darkness and reduced visibility. They will seldom rest in one location for more than 24 hours. When they do rest, they are dug in for protection and camouflaged. Emphasis is placed on the organization of task forces capable of regularly operating semi-

independently and of functioning independently for short periods. In tailoring task forces, an integrated combined arms team of infantry, armor, artillery and the necessary service support is formed to assure maximum flexibility and self-sufficiency. In short, a blending is achieved of the best capabilities of all the arms and services.

Defensive operations are only conducted until offensive operations can be resumed. This is an amoeba type defense; that is, a mobile defense which constantly changes its configuration as it absorbs the enemy's penetration or moves out in the attack to engulf an enemy which has been detected and located by organic surveillance devices or other forces acting in the reconnaissance and security role.

Needless to say, the impact of future operations on the individual soldier and leader will be tremendous. As members of bantam-size elements, often operating independently in violent offensive action, each man must be able to "draw quickly" both literally and figuratively. More than ever before, he will find himself operating under fragmentary mission type orders that demand instant responsiveness. He must be continuous master of the fear which will inevitably accompany the employment or the constant threat of employment of nuclear weapons. And, on a battlefield where everyone must be trained to administer emergency medical treatment, he may actually have to lick his own wounds. It naturally follows that the soldier of the future must possess multi-MOS proficiency—in effect, be a highly skilled jack-of-all-trades—and have the capacity to endure, think and act under continuous pressure. Courage, initiative and resourcefulness will never be at a greater premium.

No look at the future is complete without considering air power, not in the conventional sense of the term, but in terms of the power that air mobility can give us on the battlefield. When I speak of air mobility, I am talking not only of air mobility of troops but of air mobility of weapons as well. How can we increase our strength in this area? For one thing, we can push development of the light aerial vehicle.

This vehicle can be a revolutionary development. It can be used as a weapons platform, a reconnaissance vehicle, a small squad carrier, a command and liaison vehicle or an observation platform.

It is recognized that our potential enemies are just as capable as we are of developing highly versatile aerial vehicles. In fact, if they give it the necessary priority, they may well achieve superiority in this field. On the other hand, however, they may continue all out on their bent for mechanization. Let us assume for the moment that this is the case. Picture, then, if you will, elements of an aggressor motorized division attacking one of our airmobile companies. This company is completely mounted in light aerial vehicles. Each vehicle mounts two machine guns and two antitank guided missile launchers or two Davy Crockett launchers. The individual rifleman in the vehicle has an all-purpose, hand-held weapon.

As the leading enemy forces approach, the aerial vehicles hover at treetop level and seek out the tanks. They destroy the tanks with their guided missiles, then land the riflemen behind and to the flanks of the armored carriers. The riflemen begin a systematic destruction of the APC's and dismounted enemy personnel. In the meantime, the airmobile weapons platoon has found the enemy division reserve and plastered it with Davy Crocketts. One platoon mounts up and destroys the division command post. Another platoon moves in on the division trains, obtaining sufficient food and POL to render supply of those items unnecessary for a considerable period of time. With the enemy force defeated, the company now anticipates the commitment of enemy reserves. Aerial patrols are pushed out. Moving enemy forces are located and reported to the task forces as nuclear targets. After the larger yield nuclear weapons are fired, the aerial patrols move into the area to determine the damage and destroy the remnants of the enemy reserve. Having accomplished the destruction of a considerable force, the company commander now decentralizes control to his platoon leaders to mop up his area of responsibility.

I have charted the course the Army must follow. It is important that we keep in mind the requirements which are mandatory if the Army is to fully exploit its inherent versatility. I should like to reiterate the most important of these requirements—greater mobility and greater firepower, both of which, in turn, require improved command control.

The Army must have sufficient organic means to deliver nuclear and nonnuclear weapons in instantaneous response to requests for the delivery of fires.

The Army must possess sufficient freedom of movement to assure it of a decisive mobility advantage over any enemy whenever and wherever demanded. In any event, never let us forget that, while the Army is capable of using mechanical means of mobility and other machines to the utmost, it is not unalterably attached to such machines.

Given these means, we can join with the other members of the tri-service team in saying with greater pride and confidence than ever before: THE UNITED STATES ARMY—ANYTIME, ANYWHERE, ANY WAR!

Lt. General
Arthur G. Trudeau
Chief, Research and Development

BASIC AND APPLIED RESEARCH FOR THE ARMY

THE Army's Research and Development program supports extensive investigations in the field of basic research as well as in applied research and development. The scope of these programs is as broad as man's imagination, for our primary interest is in man—the soldier—and what it takes to sustain him in an environment more hostile today than ever before in all history.

The Army strongly believes that man continues to be the most important factor in any combat operation—that man will always play the predominant and the final role—and that no contrivance or concept ever will substitute for his human powers of imagination, logic, and performance in battle in any of the media or dimensions in which he may ever have to operate. The school of thought which leaps to the theory that man is no longer needed in an era of missiles, space, and nuclear weapons has failed flatly to answer the basic question: How do you seize and hold, or recapture and control contested ground without flesh and blood and brains?

The Army's efforts in basic research—to penetrate the ever-shifting boundaries of science—are extensive. We devote about $50,000,000 per year to this effort, expended through more than 550 laboratories, universities, and industries and 80 Army and other government installations. Part of this research is conducted in Japan and in 14 countries in Europe.

Basic research looks into the future for a 12 to 20 year period—as an example, toward the battlefield of 1975. The Army is particularly aware of the necessity for basic research and will continue to stress it to the limit of available funding.

LET'S look at some of the general areas of interest in our applied research and development effort in the classic fields of military endeavor—firepower, communications, and mobility.

In the nuclear area, we are making particularly fine progress in developing a formidable array of weapons with a wide range of yields. Not only are we fashioning warheads for nuclear-tipped missiles and rockets, but we are developing low-yield, lightweight, nuclear weapons for the close-support of our combat forces.

We are also improving our tube artillery—it still retains its vital importance for close-support and for delivery of conventional fires continuously if needed.

We are developing many types of improved guided missiles and rockets.

In the non-nuclear area, we have improved rifles and other small arms. These weapons, soon to be in the hands of troops, out-perform anything we have now. They represent the latest advancement in the state of the art, but we are striving for still greater ones tomorrow.

Other additions to our arsenal of future weapons may be developed in the chemical field. Here, the Army is doing the bulk of the work in developing new agents and warning and defensive measures for national defense. Our efforts are important because we know that the Soviets have been conducting for many years an intensive R&D program to develop both lethal and non-lethal weapons. As a result, Red Army tactical units now have an impressive chemical warfare capability and their weapon stockpile consists of about one-sixth chemical munitions.

If the Communists ever use chemicals, with which they are well equipped, we and our allies must be prepared to meet such an attack—both offensively and defensively.

For a time firepower completely out-stripped communications and mobility. But that picture is changing, particularly in the field of communications.

Advances, here, have enabled the Army to increase its command and control capabilities to the degree required by mobility and dispersion. Included in this area, also, are the surveillance drones that will penetrate enemy lines to send or bring back information of the enemy. Here a wide variety of sensors—radar, automatic cameras, and infrared devices—are being studied and adapted for drone use. The fantastic advance in electronics has left many difficult problems to be

solved in this field, however, as the number of electronic emissions in a battle area will be perhaps ten times as great as ever occurred before.

In this same area we are working on automatic data processing systems to sort and evaluate enemy information so that the commander will have the intelligence needed for rapid decisions. Enemy intelligence is essential for timely delivery of effective missile and artillery fire against suitable enemy targets. We mustn't go overboard, however, by thinking complex computers are a substitute for a commander's decision.

I TURN now to mobility which I have deliberately placed last in the combat equation of firepower, communications, and mobility.

As I have tried to point out, our military power today is, in terms of firepower, truly formidable. In communications we have leaped ahead. But the Army has one crying need today, and that is for revolutionary strides in mobility.

We must break the ground-bound barrier!

Within the framework of future possible conflicts—whether engaged in all-out nuclear war or in putting down aggression with conventional weapons, Army combat troops must react faster, cover more ground, protect larger areas, and be able to disperse and regroup faster than ever before. At the heart of this mobility problem is one simple fact—the greater the speed of movement over all types of terrain, the greater the chances of tactical success. The Army's case has been seriously prejudiced these last years by shortcomings in strategic mobility. This has been recognized and is—I hope—being corrected.

Once on the ground in the battle area in addition to better trucks, we look to the GOER type of equipment used in commercial earth-moving and heavy construction work, where large wheels and tires give true off-road mobility. We expect the GOER to provide better logistic support to mobile and dispersed combat operations and to provide real off-road mobility.

Still on the ground you will see new tanks and armored personnel carriers. These, while not yet in the hands of troops, are in production and soon to be operational to back up the striking power of our powerful new weapons systems. These ground vehicles represent great improvement over today's tanks and armored personnel carriers, in size and weight and in engine performance and fuel economy but still better ones are in the offing. Where possible, they will have both swim and air-transportable capabilities.

NOW, paradoxically and importantly for better battlefield mobility and operations we are concentrating on the air!

With the speed and complexity of modern warfare, the ground commander must be vitally and directly concerned with all the activity affecting the three-dimensional envelope of his battle area. He will even have to be alert to subterranean dangers.

We find we must look to the air to attain the revolutionary improvement we require in mobility for ground forces. Right now, this means observation, surveillance and transport. We are working to develop true air vehicles that will fly just above the "nap of the earth", permitting the combat soldier of tomorrow to overcome normal terrain obstacles, such as mud, swamps, ravines, rivers, and forests. This type of vehicle will have the take-off and landing characteristics of the helicopter coupled with the advantages of the fixed-wing aircraft in forward flight. Flying disks or platforms with unusual power plants are experimental vehicles that promise to give the answer of flying low and slow and quietly just above the battlefield.

I want to announce the successful completion of an Army-industry research project which has resulted in the approval by the Federal Aviation Agency of a helicopter capable of flight under all weather conditions. The achievement indicates the close cooperation between Army and industry in important defense research and development projects.

LAST year I think I told you, and I have repeated it since to representatives of several industries, that the Army was doing everything within its power to improve communications between ourselves and the people on whom the Army's progress depends. My office has sought diligently to do this through presentations that have been made in various areas by teams from my office, by visits to some of our major industries, which by necessity must be limited in number, and by the preparation of certain publications.

I am pleased to announce that the series of "Problems Guides," a sample of which I hold in my hands, is now nearing completion. There will be a total of eight such guides, one on supporting research, and seven others, one for each of our technical services.

In order to obtain access to these Guides you should contact the Technical Liaison Office in my office or the TLO of the Technical Service responsible for R&D in your area of interest.

In addition, it may be of interest to know that the Army Research Office, beginning about November of this year, will commence publishing a monthly periodical entitled *Army Research and Development News Magazine* which will carry current information on our R&D activities. It will be distributed primarily within the Department of the Army.

George Haddaway
President, Flight Magazine

ARMY AVIATION HAS A STORY

For reasons of space, questions answered by each participant follow his original remarks, although they were actually answered after all participants had spoken.

MY entire professional life has been in the aviation publishing field, so I am somewhat limited to the air. My recent experience is mainly with the Army in Europe in maneuvers and on flights along the Iron Curtain, plus visits to various bases. This has convinced me you have one of the greatest stories in the world to tell and you are simply not telling it. There is not only an apparent reluctance to tell it, but it seems you are definitely trying to hide it. The word is out to shush-shush Army aviation.

I may be prejudiced, but to me this is a little short of criminal, especially after living with the troops in Europe and learning at firsthand how much the nation needs air mobility in our Army.

To me it is more critical, vital and basic at this time than getting a man to the moon.

To gain the support, which is an absolute foundation to your progress, your story must be told on a broad basis and on a specific basis. It must be told well, it must be told consistently with integrity and not just for publicity. There is a regrettable tendency to believe that telling a story is a PIO function only. This couldn't be more in error. It is a function of everyone who believes in the future of the Army. It goes without saying that the story should be logical and farsighted. It must show a real concrete gain in our capabilities. It must be understood, believed and supported at every echelon in the Army, from the mechanic in the field all the way to the General Staff.

The goal is to build up an image throughout the nation as to the absolute necessity of this program to our national welfare. I have had the Navy League treatment, I have had the Air Force treatment, but it is interesting that I had to push my way into the Army aviation problem.

The tremendous resources of civil aviation are in every nook and cranny in every county in this nation. The nation's most successful business organizations use airplanes in their business. They are wide open in fertile grounds for the Army aviation story, and for directly telling it once this rich resource of people is indoctrinated. They are blood brothers to you in this business of flying in the same air space with the same kinds of equipment. If the Army truly wants to turn its air mobility plans into combat power (and that is what we must do), we must develop the strongest of party lines supported by every echelon of the Army, and tell it at every opportunity. I earnestly urge you to get on with the job.

QUESTIONS

"What specific recommendations do you have as to how the Army should go about getting greater public support for real Army air mobility?"

The answer to that is that the Association of the U. S. Army should, without delay, establish a saturation campaign of public education and press relations. Dovetail this in with a stronger Army PIO setup and work together. Go out and seek writers who are looking for and are hungry for the wealth of material our modern Army offers.

I have another group of questions, which combined ask for our views on the relation of TAC and the Army.

In answer, I would agree completely with what Dean O'Brien said (see below). Give the Army what it needs to do its job. Break away from these artificial controls. The Army does not have the kind of air support it needs to do its job. So let's drop the idea that it is sacrilegious to get TAC's support.

A third question: "Do you believe the limitations that the Army is allowed in regard to weight and types of aircraft are unrealistic?"

My answer is that this situation is intolerable and should be rescinded at once. There is only one thing sillier than this unrealistic bar and that is the silly procurement situation where the Army has to go through the Air Force and the Navy to get its airplanes.

Dr. Morrough P. O'Brien
Dean Emeritus, College of Engineering, University of California; Member, Army Scientific Advisory Panel.

SUCCESSES OUT OF FAILURE

I WILL comment on a few points, the first of which is the matter of research and development, particularly as regards Army vehicles.

To be successful, the organization responsible for research and development must have the vision to conceive and try many innovations and also have the incisive understanding and the hardihood to stop them if the results do not live up to expectations.

I think as a nation we are not quite sophisticated enough to carry on this work successfully. Research and development work which does not produce a substantial crop of failures, as well as useful results, is too timid. I am not advocating failure, but many failures are to be expected when developments aim beyond the boundaries of established technology. The way to get results is to "go for broke" on parallel paths with many casualties.

I say this because the administration of research and development must be carefully controlled, both to start needed developments promptly and to stop them when they should be stopped.

It is my impression of the organization of aviation in the Army that it is not equal to the job ahead for Army aviation, especially the organization for research and development in aviation.

My next comment I wrote down as "What ever became of TAC?"

Frankly, I have tried to get a full story on that. When I was first appointed to the Army Scientific Advisory Panel I received a letter explaining that one of the problems of the panel was to help the Army fight on the ground without any air support. I won't mention the man who signed the letter, but it is in the record. It seems to me that the Army must come out in the open and get the opportunity, get the freedom to develop the aviation equipment it needs to do its job and to break away from artificial restraints.

It seems like an impossible situation, an entirely intolerable situation.

I have listened for a fight on this subject and since we were told to speak up and be as controversial as we wished, that is one I would urge the Army Association and the others to get to work on. It is clear to me and to anyone, I think, who has followed this, that the Army doesn't have the kind of air support it needs to do its job.

Now I would like to say that if you try to meet all situations with the same equipment, you will get an averaged-out kind of thing which doesn't quite do anything well. I make these comments pointedly because I have served on the Army Scientific Advisory Panel for ten years, and I have never heard a satisfactory description of a complete operation, including all of the necessary support. It is my impression that the planning of very complex things to meet many situations requires attention to specific operations of different character, and then an examination of the requirements of those many situations to find the common elements and to give them a high priority in your planning.

On air mobility it seems to me the time has come when the Army can now make its plans in terms of vertical take-off planes. The helicopter is well developed and very useful, but with limited range and speed. You now have the opportunity to think in entirely different terms, because the vertical take-off airplane is almost here.

My final comment: I have gained the impression that the Army internally isn't quite clear or certain as yet that it really wants to push aviation.

I say that advisedly and pointedly. It seems to me that it is important to integrate aviation into the Army. To treat the flying machine as a part of the equipment of the ground forces is desirable, but it also is necessary to reach an organizational decision to push this matter, and I have the impression that that has not quite been reached.

QUESTIONS

The first question: "In what respect is Army research and development inadequate to Army's needs, and what are your recommendations?"

My recommendation is that the aviation equipment be handled in a manner similar to other

Army equipment. I have the impression that that is not the case at this moment. Tanks and other types of equipment have a branch to take care of their research and development and procurement, and so forth, and it is my thought that aviation requires the same sort of organization to carry through projects promptly.

The next question: "Please enlarge on your observations that the Army isn't certain that it wants to push aviation and needs to make some organizational decisions relative to it."

My impression is the result of both meetings and conversations with Army people. We would talk about aviation, and I finally would remember that when the Air Force broke away, they took everything with them. We know that happened. There is too much of an aura about the airplane. They ought to be treated like trucks and other items of equipment and be under the control of the ground commander.

Army aviation in close support should act like Marine Corps aviation, where the ground commander tells the guy in the air what he wants.

The third question: "You mentioned the need for integrating air mobility into the Army. We had previously heard a great deal about modernizing the Army. Why doesn't the Army concentrate on modernizing its own equipment and leave the problems of air transport to the Air Force?"

I am beginning to wonder where the dividing line lies between the Air Force and the Army. I think aviation has been given too special treatment. It ought to be part of the Army and depending on another service and another whole chain of command to get something done is an impossible situation.

MOBILITY—Ground and air

Maj. Gen.
Leif J. Sverdrup
President, Sverdrup & Parcel, Inc.

THE GROUND IS WHERE THE BATTLE IS

CONSIDER the auk who became extinct because he forgot how to fly and could only walk. Consider man who could well become extinct because he forgot how to walk and learned to fly before he could think.

Here is a panel talking about Army mobility. Three out of the four are going to talk about air mobility, and only one is going to talk about ground mobility. I still think the Army is going to stay on the ground.

I am reminded of a study that was made several years ago which compared military operations through the centuries. It concluded that Hannibal and his famous army advanced at the rate of seven miles a day. Napoleon in his advance on Moscow advanced at the rate of seven miles a day. The German Army in World War II in its initial movement into Russia advanced at seven miles per day. And finally, the United States Seventh Army, advancing up the Rhone River, from the beaches of Southern France against light oppositon advanced at the rate of seven miles per day.

This leads to the apparent conclusion that over the centuries we have made no increase in ground mobility. I would say that this is somewhat less than accurate.

However, we must greatly improve our capacity for more rapid movement to insure that we can mass our forces at the critical points to force a favorable decision and likewise to disperse rapidly to avoid the catastrophe inherent in the use of mass destructive weapons.

A discussion of tanks of the future exemplifies many of the major problems of surface mobility. The Army would like to have a tank that can be moved by air to trouble spots throughout the world. It should be large enough to have sufficient flotation to cross water and such obstacles without stopping. It should be able to cross all types of terrain without failure; in the polar regions and in the middle of the jungles of the equator. It should carry sufficient protection so that it would be difficult to put out of action by any means. It should have the firepower required to get ahead of the enemy and defeat any enemy tank and destroy other types of targets. It should

contain foolproof communications. It should be reliable and require little maintenance.

I sometimes wonder if we don't ask too much of our equipment? It is a development like the universal camper's knife, which has a cutting blade, a scissors, knife, fork, spoon, can opener, and a variety of other things. You have seen such knives in the store. The only problem is that they are too big to put in your pocket and too heavy to hang from your belt.

As complex as Army requirements must be for desirable vehicles on the battlefield, we must carefully screen these requirements, apply judgment, select the critical features desired, compromise if necessary, but in so doing, never lose sight of the basic requirement: being able to move the equipment to the points required and the assurance of getting there when needed and doing the job when it gets there.

However, all is not lacking in the ground mobility field. There are many good things that the Army is doing, and that will give it the rapid mobility on the surface it requires.

Development of the GOER vehicle with its simplified maintenance and off-the-road capability—this is a complete new approach to the development of a military vehicle.

In the logistics area, where tremendous amounts of POL are needed to support a highly mobile Army of the future, Army research and development has a well-coordinated plan for developing a great number of items to move POL rapidly to the point where needed.

The problem of mass logistical support demands simplicity and austerity within its own organization. Many of the creature comforts which have become a part of the every day American way of living will have to be abandoned. We must get back to the true necessities of life.

MOBILITY—Ground and air

Eugene Vidal
Developing and Consulting Engineer;
Member, Army Scientific Advisory Panel

AIRLIFT ALL THE WAY TO BATTLE

I WILL touch on strategic airlift, which is a problem for both the Air Force and the Army.

The only way to handle a limited war, brush fire type of operation, is to move quickly. The fact that the Army can handle that sort of thing quickly can in itself be a deterrent, particularly if it is demonstrated frequently.

The Air Force can land troops and supplies where there is a big enough airport, but this may be 500 to 600 miles from the trouble spot and not quite within walking distance. This is a problem for both the Air Force and the Army and one that probably should have been handled or started some time ago, but it hasn't been, for a lot of reasons.

So I think we have a problem of educating, first, the Army itself from top to bottom, and then the public and their representatives in Congress, that airlift is not complete unless it is all the way. And to be all the way you must be able to arrive at unprepared fields in the battlefield area.

There is going to be a modernization program for the strategic airlift in so far as the larger, long-distance planes are concerned, and there will be jet planes. But I believe that along with it, the Army should insist that it should have the same capacity to get to the trouble spot. For every 100-troop jet transport, there should be an equivalent of what would be a vertical take-off machine.

It looks like there is some progress under way with this now. Whether it ends up in the Air Force or the Army is incidental at this time. A joint committee, appointed by the Defense Department, is studying the VTOL, which should have the range and the carrying capacity that would be needed for the Army.

QUESTIONS

I have this question: "Do you think the Army should have its own airlift capability for long as well as short range? The present system seems like trying to run a ship with the engine rooms and deck crews under separate commands."

It sounds like a Navy question. On long-range airlift capability, I assume that Army wouldn't

be able to have it even if they wanted it for some years to come.

On the short-range, which would include the type of thing I was talking about, there isn't any question, but that Army should have it, and from the beginning, because short-range VTOL cargo or machines can be used in the battle theater. So on short-range, definitely it should be Army.

MOBILITY—Ground and air

Lt. General
James M. Gavin
President, Arthur D. Little, Inc.

FREEDOM TO THINK BOLDLY

IN bringing this to a conclusion I have a few subjective observations:

First, there is the integration of the air vehicle into the Army in as many places as it is needed to perform its combat function. I have been associated with research for many years, and I have never been able to understand why artificial administrative restraints are placed upon the thinking of people who have a job to do and want to develop equipment to do that job.

When you limit weight, you limit performance, you limit range, you limit speed, you limit carrying capacity. But more dangerous than these is that you limit thinking.

One wonders how this came about. Having been in many of the discussions associated with it, it seems to me to be rationalized on the grounds of unification. It is a form of intellectual disengagement. By having your thought processes fall back from the weight, you need to 5000 pounds, you are automatically disengaged. Thus you relieve tension with your fellows in the other services. But the real effect is to compartmentalize the thinking of the Army, isolating it from the sister services, risking the great danger of gaps in thinking and ultimately in hardware; gaps in which the Soviet Army may well move to your grievous disaster.

If it is an effort at unification, I would like to say, as an individual, that unification begins at the top. It begins in the Department of Defense and as far down through the staff as it can be effectively carried out. It doesn't begin in the intellectual processes of men on the battlefield. It is intolerable and incredible from a research point of view that this condition continues to prevail.

Don't you realize you are on a mobility plateau and you have been there since World War II? Essentially you are improving the land vehicle and the air vehicle. You are being cautious rather than bold. To try to do it, you have to do better than the enemy. Is the enemy doing as well as he should be doing? You need a revolutionary approach to this problem with complete freedom of the intellectual processes to get what you need.

This bothers me more than anything else.

I come to my final comments. Some years ago when I was in G3, we had the problem of the Congo Delta. I discussed with General Ridgway the force requirements as an ordinary endeavor if we had to go in there. After we got through with G3 and everybody else talking about what we were going to do, I talked to G2 and the medical people, and I found out that the losses from environmental illness would far exceed that from bullets. To my surprise it came down to the question that the force would be down to zero within 90 days because of environmental ailments, and the vehicles would be inoperable.

We have operated on the theory that we would develop equipment for use in a temperate zone, where wars have been fought in the memory of most civilized men, and the outer fringes would be exceptional. If you fought in the tropics or in the arctic regions, this would be exceptional usage of standard vehicles. It was like the man looking for his watch under the street light. When asked why he was looking for it there when he hadn't lost it there, he said, "This is where the light is."

You are working where there is light and knowledge. Don't you know that warfare is now in the polar caps and it is now in the Congo and this requires special equipment? So for land warfare cease making this big pocket knife that you can't get into your pocket. Recognize the special requirements of the polar regions and the tropical regions and develop a different implement that will give you a chance to live and win a battle.

Courtney Johnson
Assistant Secretary of the Army

THE BUSINESS SIDE OF THE ARMY

I HAVE called logistics the business side of the Army. I must point out to you that, while it is our objective to conduct our Army logistics activities in a businesslike way, the Army is not a business. Our success or failure cannot be measured in terms of profits, of economies, of organization, of operational techniques, or of public acclaim. We have only one reason for existence and that is to be ready to fight and to win a war. This military necessity must be our first consideration and first priority in all of our undertakings. This we must never forget in our effort to cast Army logistics operations in a business mold. What we must constantly consider is the effect of change and improvements on operations during wartime when the chips are down. I would like to ask you that you bear this fact in mind when you hear our operations criticized because, in some instances, they do not follow an absolutely businesslike procedure.

We have $14 billion of good useable inventory of major items of arms and equipment, plus $4 billion of serviceable minor secondary items—such as repair parts, expendable textiles, rations, and so on. This large inventory is composed of 925,000 catalogued line items in the supply system. It is in the hands of troops in the United States, in Europe and in the Far East, and in 54 depots in the Continental United States and 65 depots abroad. These depots have 170 million square feet of covered storage space—and, incidentally, twelve percent of this space is excess to our present needs as a result of expansion during World War II and Korea, followed by contractions of the Army in recent years. For the past several years the Army has been spending an average of $2 billion per annum for major items of hardware and equipment. Of this, $1½ billion is for the Army's own usage and the remainder for the Army's customers who are the other military services and our Allies in the Military Assistance Program.

To carry on this enormous business, it is necessary to make two million procurement transactions every year. These are consummated through 356 procurement offices.

To carry out all of this requires a sound organizational structure, operating with the latest and best organizational practices. This organization includes an almost equal number of military personnel and civilian personnel who work for the Army — (260,000 military and 259,000 civilians), a total payroll of 519,000 people in Army logistics all over the world.

To direct these workers, both military and civilian, we must have well trained managers, technicians, specialists, instructors and inspectors. I am glad to say that our training responsibility is carried out through continuous educational programs in all phases of procurement and supply, depot management, etc. Last year the Army graduated in the managerial field 1460 officers and civilians from the Army Logistics Management School at Fort Lee, Virginia; 556 from the Army Management School at Fort Belvoir, Virginia; 400 from civilian colleges, and 1400 from the higher service schools, a total of 3800 trained in higher management in one year. In addition to this, 58,000 graduated from the Technical Service Schools and 25,000 from Correspondence and On-the-Job Training Courses. This is only one year of training. This process has been going on for many years and will continue in the future. I doubt if there is proportionately as much management training in any civilian enterprise.

In my opinion, the Army's organizational structure is of the most modern type—one which parallels that of large corporations with diversified products and plants in many locations.

I SHOULD like you to know that 75 per cent of all of the money that is spent in the Defense Department for supplies and services is spent by one of the services in favor of all three. This is probably the most integrated cooperative effort that the world has ever seen for an operation of this size. This is accomplished by Single Manager assignments and single procurement assignments. The Army has been assigned the Single Managerships for Subsistence (that is, food); Clothing and Textiles; Military General Supplies;

Military Construction Supplies; and Military Automotive Supplies. The Navy has Single Manager assignments for Medical Supplies, Petroleum, Oil and Lubricants; and Military Industrial Supplies. In the service field, the Army is Single Manager for Military Traffic Management; the Navy for Military Sea Transportation; and the Air Force for Military Air Transportation. In these Single Managerships, the Service with the assignment conducts all operations, including the consolidation of requirements, procurement, stocking, storage, issue, cataloguing, mobilization planning, transportation, maintenance, and inventory control.

In addition to Single Mangerships, we have single procurement assignments. Of these procurement assignments, the Army has 16 categories, with many items in each category which we procure for all the Services. The Navy has 13 categories and the Air Force three categories. To give you an idea of the items in these categories, for instance, the procurement of lumber is an Army assignment. The procurement of all small arms and all ammunition are Army assignments. As I said before, the result of this is probably the greatest cooperative effort that has yet been devised. The essential interests of the individual military services are preserved and these operations are resulting in much greater efficiency, fewer people, less cost and better service.

LIKE your businesses, our Army business has many problems in the Logistics field—too many indeed to mention them all to you—but I would like to mention five that are extremely important to the Army, to you, and to the country, and to solicit your further suggestions leading to solutions.

The first, and by far the largest problem that the Army has is the question of modernization of arms and equipment. Let me describe this problem to you. As I mentioned before, the Army has a good useable inventory of major items of weapons and supplies amounting to $14 billion. We have found by long experience and careful statistical study that this inventory is consumed, becomes obsolete, or wears out at the rate of $1.4 billion per year. It takes that much money each year to replace the items of arms and equipment that are no longer good enough to guarantee superior combat ability and to replace those items which are worn out or used up in training every year. Thus, our inventory, on the average, turns over on a 10-year basis. We are receiving in appropriations from the Congress and apportionments from the Bureau of the Budget on the average of about $1.5 billion per annum for the procurement of arms and equipment. Thus, we are receiving approximately the amount of money which is necessary to take care of usage, obsolescence and wear-out. It is true, in replacing obsolescence, usage and wear-out, we get some modernization of the Army, but it is a slow process and each year the items in our inventory get one year older.

Since the Korean War, the last time we fought, the Army has developed 521 new items of arms and equipment. These are of the most modern design, and equal or superior to anything in the world. It is our objective to modernize the Army during the next several years. Although modernization will be a continuous process, by the extension of costs and quantities for these new items, we know that it would require a minimum procurement budget of $2.5 billion per annum for at least five years to accomplish this objective—in other words, at least $1 billion more each year than we are getting to equip the Army completely with these new items, even without introduction of a new high-cost system such as Nike Zeus. The problem is one of time and money. We know what we need. Industry can build what we need. If we have the right amount of money, we can meet the essential needs to modernize the Army in about five years of procurement. If we have less money, the time stretches out—in fact may stretch out to a point where these new items which we have developed at great expense will become obsolete before we have the money to equip the Army completely with them. In addition to this problem, we are spending $1 billion per year for Research and Development, Test and Evaluation to develop additional new items. This continuous Research and Development is necessary and desirable to maintain military superiority—but, nevertheless, we still have the problem—how are we going to buy the additional items beyond the 500 we already have developed.

THE next problem is our Supply System itself. As I told you, this is an enormous operation involving almost a million line items, 119 depots here and abroad, and 170 million square feet of covered storage space. In the main, the physical aspects of this Supply System were set up during World War II and Korea. Since then, our evaluations of limited war and general war have changed, the size of the Army has changed, and the geographical emphasis has changed. The threat of nuclear attack has developed. We are therefore engaged in rearranging our supply system to meet current conditions and conditions as we see them in the future, introducing new methods of communication and transportation, introducing automatic data processing equipment to expedite supply service and decrease costs; and concentrating our depots in fewer places, thus

requiring some movement of large amounts of inventory and the disposal of many large physical facilities, both to achieve economies, to provide strategic dispersion of arms and supplies because of the nuclear threat and to dispose of the storage space that is beyond our needs. This problem of rearrangement of plants, facilities and inventories is one with which you are all very familiar. You have the same problems in your business that we have, only ours are on a larger scale and complicated by military considerations.

THE third large problem is one of surpluses. As a result of World War II and Korea, there were generated large inventories which were left over after the wars. This will always be true after a war since it is not possible to regulate the end of a war to fit a prearranged production cycle, and the end of a war always finds us running at full speed with great stocks on hand. In spite of years of effort and shipment of useable equipment through the Military Assistance Program to our Allies and further transfer to educational programs, State Governments, other Government Departments, and finally, sale as scrap, we still find ourselves with $3 billion of this residual inventory which must be sold or otherwise disposed of.

One thing that is very generally misunderstood is our fiscal terminology relating to surpluses. In Government, surpluses are always stated in the amount of the acquisition cost: how much the item cost when new. Therefore, when I tell you that we have $3 billion of surplus inventory, I should also point out that if this were depreciated as it would be on a corporation's statement, it would probably be shown as less than $300 million of surplus. When I tell you that we generate over a billion dollars surplus from obsolescence annually, stated in acquisition costs, I should also tell you that these figures—expressed in ordinary accounting parlance, with depreciation—would probably appear on the statement as valued at $100 million.

I can assure you that we have very definite, progressive, vigorous programs which are gradually bringing this surplus inventory down to manageable proportions. We hope to get it to a basis of an annual turnover, thus reducing the cost of handling, storage, transportation, etc.

THE fourth problem I should like to bring to your attention is what I would call the "Numbers Problem." By that I mean the number of items in our inventory which must be developed, procured, controlled, stocked, issued, transported, and maintained. This is very largely a problem of standardization. For instance, if we have items of different design and manufacture which we use for the same purpose, we have duplicated the number of items that we must supply for maintenance. We are engaged in a constant struggle to introduce new and better arms and equipment into our inventory and an equally perpetual struggle to reduce the number of line items in our inventory. While this situation sounds almost schizophrenic, I can assure you that we are making progress in both endeavors.

MY fifth problem is more a problem of understanding than one of actual operations. I am referring to the public and industrial concept of the so-called "Arsenal System" of the Army. Even prior to the Revolutionary War, there had to be established in this country sources of supply for arms and munitions—there was practically no industry which could undertake their manufacture—and the government's establishments where these arms were produced and stored were called arsenals. In the Army the name has continued, but the functions have changed enormously. The so-called arsenals of the Army are, in reality, engineering and technical and development centers for those military products which are in no sense the kind of products that industry produces normally and for which the Army must preserve knowledge, skills, methods, improvements and developments at all times—during peacetime or wartime. A small amount of pilot line production and production of items needed in very small quantities takes place in these arsenals. However I think the best way to give you a real understanding of our arsenal operation is by the use of actual figures. For the Fiscal Year 1960, during which approximately $2 billion was spent by the Army for hardware for itself and for its customers, $55 million, or a little over two per cent of this hardware, was produced in the arsenal system. In Research and Development, out of approximately $1 billion expenditure, $132 million was spent in the arsenal system. However $90 million of this was for missile development in very advanced and special categories. The remaining Research and Development activity in the arsenals was therefore $42 million, or approximately 4 per cent of our R&D activities. Thus you can see that while our engineering and technical centers (the so-called arsenals) have a major role in our defense pattern, they receive only a very small percentage of our Procurement and R&D funds. In passing, let me mention also that the services performed by the arsenals many times enable us to get into competitive procurements at an earlier date than would otherwise be possible. I need not remind this audience of the benefits to be derived from competition.

AUSA'S 1960 RESOLUTIONS

Unanimously Adopted by the Assembled Delegates

10 AUGUST 1960

Only the Strong Can Be Free

IN his message to the Congress on 8 August 1960 President Eisenhower reported "an intensification of Communist truculence." Our response to this, he said, must be vigilance. "Continuing strength, military, economic, spiritual, must remain our reliance. Our basic objective—to secure a permanent peace—is yet to be won."

This continuing danger is of real and vital interest to the Association of the United States Army. It is the reason for existence of the Association at this time in our national history. To put the events of these times and AUSA's part in them into perspective a review of the cataclysmic events of this century is in order.

The first half of this century was a time of great global wars and revolutions which saw the overthrow of powerful autocracies and the break-up of world-girdling empires built on colonialism.

Submerged races and peoples have risen out of the wreckage to form new nations that are strong in numbers, in undeveloped resources and, most importantly in aspirations and pride.

Out of the carnage of war and revolution has arisen a counter-revolutionary force: the communist empires of Soviet Russia and Red China. Fervently committed to the overthrow of the rest of the world, these aggressive, ruthless dictatorships have thrown into the effort all of their considerable and growing resources.

Also in this century man has made great scientific advances which have immense peaceful potentialities. Unfortunately these same advances have made possible weapons that evil men could use to destroy the world.

The Responsibilities of Leadership

The leadership of the nations opposed to communist tyranny has been thrust upon the United States. In its strength and in love of freedom the United States has never sought to aggrandize its position at the expense of other peoples.

This leadership is a challenge of utmost magnitude.

To meet it the people of the United States must demonstrate that a free people is able to maintain its freedom while harnessing its great energies and diverse talents in unflagging opposition to tyrannny.

Of all the immense responsibilities thrust upon us none is more critical than the obligation to provide for the common defense with armies, navies and air forces capable, with the help of allies, of deterring communist military aggression.

The Military Problems of the United States

We of the Association of the United States Army hold that the security of the United States and the nations allied with us is fundamental.

We believe that this security is attainable. We can afford it.

The strategy of deterrence and containment through forward deployed forces is essential to free world security, but this strategy does not provide for retaliation if the deterrent fails. In such a case we must be prepared to carry the war to the enemy after the first nuclear strikes and to bring the war to a rapid and successful conclusion.

The 1960s may be the decade of decision in this century of revolution and war. Pre-

mier Khrushchev continually indicates his belief that the Soviet Union is militarily superior to the United States and that he can, through threats of annihilation, have his way. If he believes the communist nations are able to defeat the free nations in war, the chances of war are markedly increased.

We must disabuse him of his idea. Militant communism will be deterred only if it has the certain knowledge that against a strong America it cannot win.

So we must be strong for only the strong can be free.

If we are to leave this planet a place on which our children can work out their own destinies freely, we must be willing to meet the challenges of this fateful century with the same courage, sacrifice and patriotic belief as those who gave us our way of life.

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The Association re-affirms its support of the programs adopted at the preceding annual meetings:

To urge the adoption of career incentives for officers and enlisted personnel to increase the effectiveness of the Army, and to improve the morale and esprit of the members of the Army and their families. These include such matters as: adequate family housing, medical and dental care for dependents, and adequate retired pay;

To continue efforts to increase the number and quality of young men applying for appointment to the United States Military Academy;

To proceed with the United States Army's memorial at its birthplace in Independence Hall in Philadelphia.

The Association further pledges itself to continue to work for the best interests of the Army and the Nation. To guide our endeavors we have adopted the following Resolutions:

No. 1. ARMY MANPOWER

WHEREAS, with the continuing threat to the security of the United States and to peace within the free world, it is essential that the United States maintain Army forces in numbers sufficient to provide a deterrent force and to serve as a base for timely mobilization; and

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Maj. General Harry McK. Roper (USA-Ret)
Washington, D. C.

Million-man active Army . . . 700,000 paid Army Reservists and National Guardsmen . . . Preallocated modern airlift to carry out Army missions . . .

WHEREAS, there can be no reliable assurance that present Army forces as vital elements of a total defense program are sufficient in number to provide an effective deterrent to aggression; and

WHEREAS, such present Army forces would afford an obviously inadequate basis for prompt mobilization to resist an actual attack and thereupon to prosecute any resulting war to a successful conclusion;

NOW, THEREFORE, BE IT RESOLVED that the Association of the United States Army advocates:

(1) An active United States Army of not less than 1,000,000 men; and
(2) A United States Army Reserve of a paid drill strength of not less than 300,000, exclusive of six-month trainees; and
(3) An Army National Guard of a paid drill strength of not less than 400,000, exclusive of six-month trainees.

No. 2. MODERNIZATION OF THE ARMY

WHEREAS, a high percentage of the weapons and equipment currently in use by the Army is still of World War II design; and

WHEREAS, through technological advances in the intervening years great strides have been made in the development of new and improved weapons and equipment designed to afford the possessor a position of tactical superiority with reduced losses in men; and

WHEREAS, except as such new weapons and equipment are produced and procured by the United States Army, the enemy—and not the United States—will have this advantage;

NOW, THEREFORE, BE IT RESOLVED that the Association of the United States Army advocates that the United States Army be immediately modernized by replacing all present obsolete and obsolescent weapons and equipment with new weapons and equipment of the latest design for purposes of immediate training and use, and that there be promptly procured and stockpiled sufficient quantities of such new weapons and equipment to assure United States ground forces superiority over any foreseeable enemy.

No. 3. AIRLIFT

WHEREAS, recently public disclosures have demonstrated that the United States Army is not assured an airlift which is

The 1960 Resolutions Committee at work. Clockwise around the table: Flavel W. Temple, Judge Thomas W. Caldecott, Sam L. Latimer, Jack A. Clarke, Maj. Gen. Harry McK. Roper, USA, rtd., Observer for Council of Trustees; William H. Baumer, Chairman; Ernest A. Eddy, Jr., Francis S. Reichmann, H. N. McIntyre, Jackson Balch, Oscar Watson.

Removal of limitations on weight of Army aircraft and range of Army missile systems . . . a vigorous Army ROTC program . . .

vital for the movement and initial support of the Army's strategic and tactical forces and for logistical requirements of the Army; and

WHEREAS, any failure to correct this critical shortage by providing an assured availability of such airlift on a committed basis and with modern aircraft and equipment will preclude effective strategic training and could have a crippling effect on United States Army operations in the event of national emergency;

NOW, THEREFORE, BE IT RESOLVED that the Association of the United States Army advocates that there be provided for immediate and assured availability to the United States Army sufficient airlift utilizing modern aircraft preallocated on a top priority basis to enable the Army to accomplish its assigned national defense mission.

No. 4. REMOVAL OF COMBAT LIMITATIONS

WHEREAS, the advisability of the removal or modification of existing weight limitations on Army aircraft and limitations on the range and employment of missile systems by Army field commanders has been the subject of detailed study and consideration within the Department of Defense; and

WHEREAS, there has not yet evolved a definitive program which, giving due weight to all of the factors necessarily to be evaluated, permits full utilization of the Army's mobility and other capabilities in support of the Army's mission in national defense;

NOW, THEREFORE, BE IT RESOLVED that the Association of the United States Army continues to advocate that the Army be immediately freed of existing weight limitations on Army aircraft and limitations on the range and employment of missile systems.

No. 5. DEFENSE AGAINST BALLISTIC MISSILES

WHEREAS, the threat of ballistic missile attack against continental United States is becoming increasingly a reality; and

WHEREAS, the retaliatory power of our military strength could be in jeopardy in the event of such an attack; and

WHEREAS, the loss of lives and destruction to the American economy that might result from such an attack could be tragically enormous; and

WHEREAS, the development of an active defense system has reached an advanced stage in the form of the Nike-Zeus which is this country's only anti-missile defense development now in the hardware stage; and

WHEREAS, the production problems of such a defense system are of such magnitude and complexity that they involve long lead-time factors demanding an immediate initiation of production, but which initiation has continually been delayed pending proof of the design and development effort, thus delaying an effective deployment date;

NOW, THEREFORE, BE IT RESOLVED that the Association of the United States Army urgently recommends that the development, production and deployment of the Nike-Zeus anti-missile missile system be placed on a national crash basis, and that production and procurement be immediately authorized even though the demonstration of the development results is not fully completed.

No. 6. A VIGOROUS ARMY ROTC PROGRAM

WHEREAS, the Regular Army, the Army National Guard, and the Army Reserve depend on the ROTC program as a principal source of commissioned officers in both war and peace and as a broad mobilization base in event of war expansion; and

WHEREAS, the ROTC program is vital to the continuing availability of high caliber officers to meet the qualitative and quantitative leadership requirements of the Army; and

WHEREAS, the training under the ROTC program in high schools and universities is essential to National Defense, and also contributes to our National Welfare and to the development of leadership, citizenship, and patriotism in young men; and

WHEREAS, the continuing effectiveness and value of the ROTC program requires

that it keep apace of the growing population and consequent economic burdens of our educational institutions;

NOW, THEREFORE, BE IT RESOLVED that the Association of the United States Army recommends that the ROTC program be sustained and strengthened by the continuance of mandatory ROTC training in those institutions currently required to do so, and further by providing adequate federal assistance for all Army ROTC programs.

No. 7. MUTUAL SECURITY AND MILITARY ASSISTANCE PROGRAMS

WHEREAS, national security in this era is necessarily dependent in substantial part on the strength of our Allies; and

WHEREAS, the Mutual Security and Military Assistance Programs are vital factors in increasing the strength of our Allies, and thus of our own position; and

WHEREAS, the Mutual Security and Military Assistance Programs are, in effect, our front line in defense of our freedoms and way of life;

NOW, THEREFORE, BE IT RESOLVED that the Association of the United States Army fully supports the objectives of the Mutual Security and Military Assistance Programs, and urges that these programs be sustained with the funds required for adequate support.

No. 8. COORDINATION OF MILITARY AND CIVIL DEFENSE

WHEREAS, the potential aggressor has the capability of launching a devastating missile attack against the United States; and

WHEREAS, the military forces will operate within the same environment as the civil defense forces and will rely on the civil defense forces, the civilian population and civilian productive capacities for sustaining military operations; and

WHEREAS, the essential interdependence of civil and military participation in recovery from nuclear attack must not interfere with the combat missions of the armed forces;

NOW, THEREFORE, BE IT RESOLVED that the Department of Defense and the Office of Civil and Defense Mobilization encourage local civil defense authorities and local military authorities to confer and plan together the form of mutual assistance which may be required in the event of attack.

No. 9. PROTECTION AGAINST CHEMICAL AND BIOLOGICAL WARFARE

WHEREAS, major emphasis on nuclear weapons has overshadowed great military advancements in the development of chemical and biological weapons; and

WHEREAS, chemical and biological weapons can bring about physical and mental incapacitation without necessarily causing death, but possibly causing widespread panic;

NOW, THEREFORE, BE IT RESOLVED that the Association of the United States Army do all in its power to make the people of the United States aware of the necessity for and unique characteristics of chemical and biological weapons so that they and our forces may be better prepared to protect and defend themselves in the event these chemical and biological weapons are used against us.

No. 10. ONE ARMY

WHEREAS, the One Army conference called by the Secretary of the Army in October 1959 developed objectives for increasing the peacetime spirit of cooperation among the Active Army, the Army National Guard, and the Army Reserve; and

WHEREAS a comprehensive and intensive program in support of One Army objectives has contributed to higher esprit and closer understanding among the three components of the U. S. Army; and

WHEREAS, tactical exercises conducted to include the three components have been a means of increasing the integration of these components into a single battle team and in consequence the One Army program has been instrumental in substantially increasing the combat readiness of the whole U.S. Army;

NOW, THEREFORE, BE IT RESOLVED that the Association of the United States Army continue to support in every possible

If it moves in 3 dimensions...

Manned or unmanned, guided or ballistic... the Columbus Division of North American Aviation can build it. The Columbus Division has complete weapons systems management capability. It has the R. & D. facilities side by side with the engineering resources. It has systems management experience along with theoretical knowledge. That is why so many of the significant advances in electro-mechanics, electronics systems, propulsion and environment systems, and other areas, are familiar domain at the Columbus Division—one of the most complete centers of advanced systems technology in the world.

NEW TARGET MISSILE—Two missiles in one, this high or low level supersonic target missile for U. S. Army is now in development at Columbus Division. Launched by solid booster, ramjet-powered, it performs from subsonic up through Mach 2, and from ground level to 60,000 feet. NAA Columbus also produces Navy's A3J Vigilante, world's most versatile Mach 2 manned weapon system, and the T2J Buckeye multipurpose jet trainer.

THE COLUMBUS DIVISION OF NORTH AMERICAN AVIATION, INC.

Columbus, Ohio

way the objectives of the One Army program and commends the Active Army, the Army National Guard, and the Army Reserve for their significant achievements under the One Army program.

No. 11. PEACEFUL CONTRIBUTIONS OF THE ARMED FORCES OF THE UNITED STATES

WHEREAS, the peaceful contributions of the Armed Forces of the United States are seldom heralded or appreciated, the Association of the United States Army calls especially to the attention of the American people these contributions of the Armed Forces of the United States during the past twelve months:

The prompt rendering of aid to the earthquake victims of Chile by the Army, Navy and Air Force, and especially the work of the Army's Medical Corps and Corps of Engineers in carrying out vital missions of mercy with efficiency and dedication;

The contribution to peace of the Armed Forces of the United States and other nations in transporting troops, supplies and equipment to the Congo in the service of the United Nations;

The continuing contributions of the Armed Forces to the peaceful exploration of space and especially the smoothness and efficiency with which the Army transferred, in the national good, the unsurpassed team of space scientists and engineers of the Army Ballistic Missile Agency to the National Aeronautics and Space Agency.

NOW, THEREFORE, BE IT RESOLVED that the Association of the United States Army commends the Armed Services of the United States for their contributions to the peaceful progress of the world during the past year and directs that copies of this resolution be presented to the President, the Secretary of Defense and the Secretaries of the Army, Navy and Air Force.

No. 12. POLITICAL PARTY PLATFORMS

WHEREAS, the Democratic and Republican Parties in their platforms recognized that National Defense forces to preserve our national security are the first charge upon our nation's resources; and

WHEREAS, these Party planks call for mobile forces and weapons of sufficient strength "to deter both limited and general aggression" and "to deter or check local aggressions and 'brush fire wars' ";

NOW, THEREFORE, BE IT RESOLVED that the Association of the United States Army calls upon both political parties to help develop the Army strength in manpower, mobility and modernization to carry out the full sense of their party platforms.

No. 13. COMMENDATION OF SECRETARY BRUCKER

WHEREAS, the Honorable Wilber M. Brucker has given over five years of dedicated service to his country as Secretary of the Army; and

WHEREAS, he has shown calm wisdom, understanding statesmanship, and indefatigable energy in meeting the many problems that have confronted him in performing the duties of this high position of responsibility; and

WHEREAS, he has fought unceasingly that the real role of the Army in our National Defense program be properly recognized; and

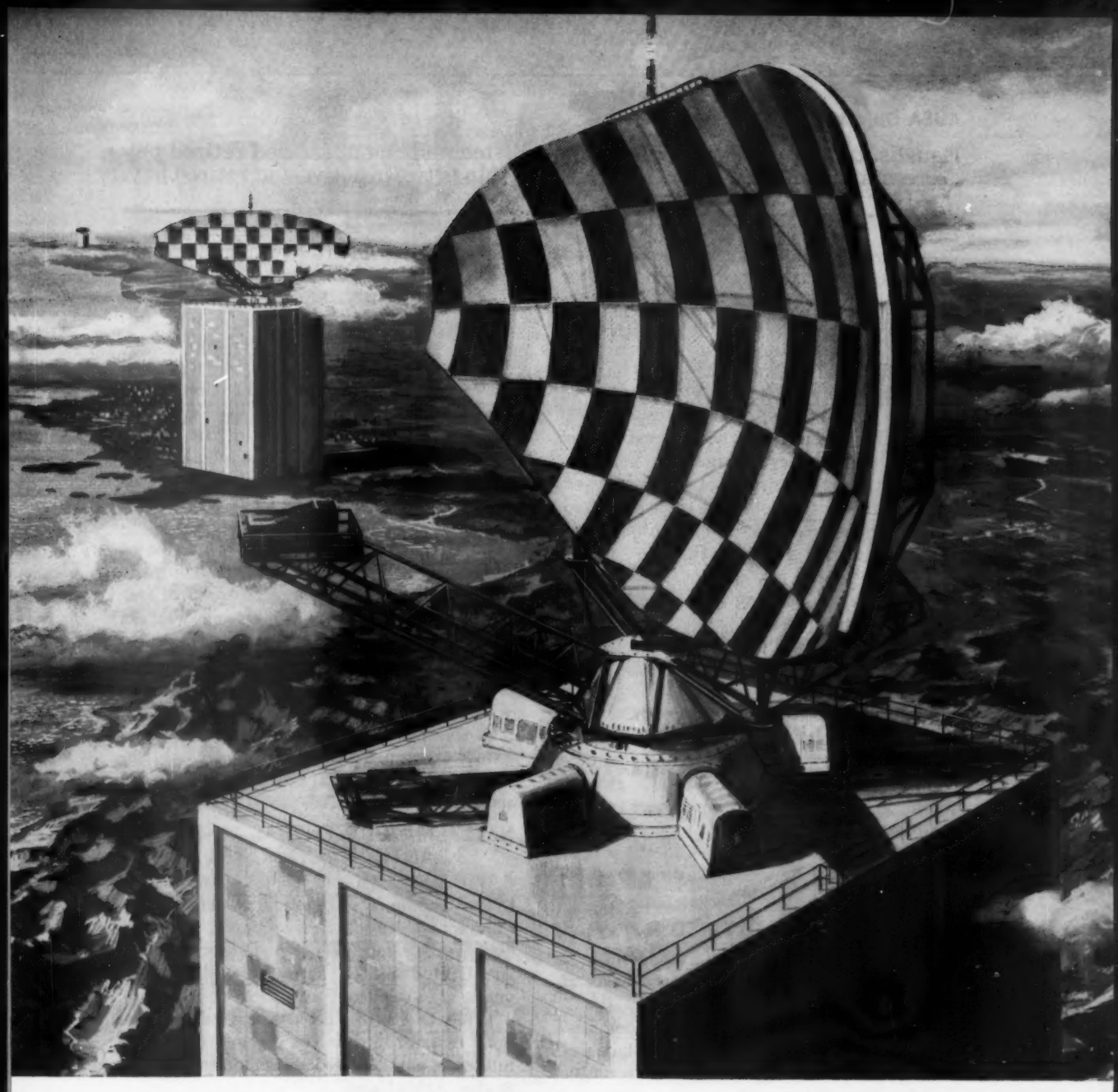
WHEREAS, we the members of the Association of the United States Army, in convention assembled in Washington, D. C., this tenth day of August, 1960, wish to take note of the contributions made by him to our country's welfare, both as Secretary of the Army and otherwise;

NOW, THEREFORE, BE IT RESOLVED that we convey to the Honorable Wilber M. Brucker our sincere thanks, and as a token of our high esteem make this resolution a part of our permanent record and forward a copy of it to him.

No. 14. PERSHING CENTENNIAL

WHEREAS, September 13 of this year will be the 100th anniversary of the birth of General John J. Pershing; and

WHEREAS, General Pershing earned the esteem of past, present, and future generations of American citizens through his de-



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This is one of many advanced Sperry radar systems. Others are tracking and guidance radars for the Navy's Terrier and Talos missiles . . . airborne navigation and weather radars for the Air Force . . . portable and airliftable tactical early warning radars for the Marine Corps . . . tiny battlefield surveillance radars for the Army footsoldier. And in commercial shipping, Sperry radars are guiding all types of vessels from the luxury ocean liner to the harbor tug.

Sperry capabilities in radar and component technology in such fields as microwave instrumentation, klystron and traveling wave tubes, ferrite devices, semiconductors and many other specialized fields related to radar continue to advance the art of precise detection . . . and direction. General offices: Great Neck, New York.

SEA · SURFACE · AIR · AEROSPACE

SPERRY

Equalization of method of computing enlisted and commissioned retired pay . . . reestablishment of traditional relationship between active and retired pay.

voted service to his country over a period of 66 years, during which time he repeatedly demonstrated that he was equal to the formidable tasks which confronted him; and

WHEREAS, General Pershing was tendered the rank of General of the Armies—the only officer of this country to hold that designation—reflecting the highest honor on his life-long service; and

WHEREAS, by joint resolution approved June 1, 1960, the Congress of the United States requested the President to proclaim September 13, 1960, as a day on which Americans should pay respect to the memory of General Pershing and the men who served under him; and

WHEREAS, the President of the United States issued such a proclamation on June 3, 1960;

NOW, THEREFORE, BE IT RESOLVED that the Association of the United States Army supports the observance of a day commemorating the birth of this gallant soldier and does enjoin its members to give their enthusiastic support to local ceremonies and observances of General of the Armies John J. Pershing Day on September 13, 1960.

No. 15. ENLISTED RETIRED PAY

WHEREAS, retirement pay for enlisted personnel is now computed on the basis of Federal Active Duty only; and

WHEREAS, retirement pay for commissioned officers is computed on the basis of total years of service including both active and inactive duty; and

WHEREAS, legislation has been introduced which would give enlisted men retirement credit for service on the same basis as commissioned officers;

NOW, THEREFORE, BE IT RESOLVED that the Association of the United States Army urges the equalization of the method of computation of retirement pay between enlisted and commissioned personnel of the United States Army.

No. 16. EQUALIZATION OF RETIRED PAY

WHEREAS, prior to the enactment of P. L. 85-422 of May 20, 1958, retired personnel of the Armed Forces received pay based on rates in direct relationship to active duty pay; and

WHEREAS, P. L. 85-422 provided for an increase in pay rates for active duty personnel, and for personnel retiring subsequent to passage of the law, but not similarly applicable to personnel retired prior to passage of the law; and

WHEREAS, the President of the United States, the Bureau of the Budget and the Department of Defense have recognized this inequity and recommended that legislation be enacted to correct it; and

WHEREAS, this legislation would be of significant value in terms of increasing the morale, efficiency and effectiveness of our active duty career personnel as well as avoiding discrimination against retired personnel who have served their country faithfully and well;

NOW, THEREFORE, BE IT RESOLVED that the Association of the United States Army continues to urge the reestablishment of the traditional relationship between active pay and retired pay.

No. 17. MAJOR GENERAL ANTHONY J. DREXEL BIDDLE

WHEREAS, Major General Anthony J. Drexel Biddle, the Adjutant General of the Commonwealth of Pennsylvania, has rendered great service to the Association of the United States Army during his two years as President; and

WHEREAS, this selfless service has been most instrumental in the growth in size and influence of the Association of the United States Army; and

WHEREAS, his unflagging courtesy, infectious enthusiasm, energetic endeavors and sound advice have been a source of guidance and inspiration to all members of the Association of the United States Army; and

WHEREAS, his long and distinguished career as a soldier and diplomat in the service of the United States exemplifies the finest tradition of public service;

NOW, THEREFORE, BE IT RESOLVED that the Association of the United States Army convey to Major General Anthony J. Drexel Biddle its warm appreciation and thanks for his services to the Association and to the United States.

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THE PRESIDENT'S REPORT

Major General A. J. DREXEL BIDDLE
Past President, Association of the U. S. Army

There follows a slightly condensed version of the report delivered by General Biddle at the opening session. A more detailed report on AUSA activities during the year ending 30 June 1960 has been prepared and distributed to chapter secretaries.

MY TERM AS PRESIDENT of our Association ended in June. When the staff suggested that I render a report of my activities as President rather than load this additional task on to my successor, my good friend Milton Baker, I promptly agreed.

During the time that I have had the honor of serving in this high office, I have been ever-mindful that in today's dealings with tyranny, what counts is prestige—in our case this includes firm adherence to our traditional principles—backed up by convincing, unchallengeable, armed power and the will to employ it, if need be—and I continue to believe that an essential and integral factor in our national prestige is the prestige of the Army.

I am gratified with the Association's progress during the year that ended 30 June. But I'm sure you'll agree with me that there is still room for improvement. I have always believed that when a man takes on the responsibilities of office, he should be willing to account for his stewardship of that office. This report is my accounting.

The full report is available to the press and chapter delegates. This that I am about to read is a short résumé.

I may add that my two terms as President of this great and forward-looking organization have been a highly stimulating and rewarding experience—along with the hard work. It is inspiring, indeed, to have been able to work with so many dedicated people, and these include the Association's national governing body, the permanent National Headquarters staff and the membership world-wide.

We have gained our present position largely through the responsible manner in which we have pursued our objectives. While we have worked seriously and diligently toward the accomplishment of our objectives, we have done so in an objective manner, avoiding irresponsible attacks on other organizations and those who have opposed us. Our Association has gained a reputation for honesty and forthrightness that is as valuable to an organization as it is to an individual. As a result of this growing reputation, when we speak out we speak with authority and are listened to because our opinions are respected. This is certainly an invaluable asset which must be safeguarded through the years.

ATTAINMENT OF AUSA OBJECTIVES

AS WE MEET and act upon new resolutions, you should be informed of the status of last year's resolutions, and some of the results we have achieved.

First, let's go over the "Big Four"—*the "Big Ms"*—the major appropriations items the Army and your Association have been supporting—Modernization, Manpower, Mobility, and Missiles.

First and foremost—Modernization of the Army's combat equipment. The Army

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The first equipment to successfully automate the processing of three-dimensional data direct from a working radar, the AN/FSA-12 (XW-1) has operated since 1958. This detector tracker has enabled General Electric to develop many improved radar techniques and equipment.

New concepts in correlation and smoothing in the track-while-scan method have been demonstrated. Delay lines applied to digital techniques and plug-in wiring boards have been improved. New ideas in data storage and digital circuitry have been applied.

This experimental model continues to be a proving ground in research and development of advanced military electronics. A completely solid state production version of the AN/FSA-12 will soon be available for many of our nation's air defense radar sites. 176-04

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GENERAL ELECTRIC

had urgently requested an additional $928 million *over and above* the Administration's Budget request, as a minimal requirement to insure our country's security and to carry out its world-wide responsibilities. Despite the urgings of Secretary Brucker, General Lemnitzer and many other high authorities—including many of our top legislators—Congress finally compromised on an increase of only $200 million.

In the second "M"—Manpower—we made out a little better. Although we didn't get our million-man Army, we were able to hold our own. Funds are provided to continue the Active Army at 870,000. In addition, the Reserve and National Guard will be maintained at 300,000 and 400,000, respectively, despite the proposed reduction of 10 per cent in each.

One of the most striking items in the Appropriations bill is the additional funding provided for Airlift Mobility. The Congress added $200 million to the Budgetary request for procurement and development of modern cargo- and troop-carrying aircraft. This reflects the growing awareness and concern over the increased dangers of limited warfare, and the inadequacy of our airlift to meet the immediate danger quickly. While much of this increased appropriation will be used to improve the Air Force's SAC, AMC and other transport requirements, the Strategic Army Corps should benefit substantially also.

In the Fourth "M"—Missiles—Congress appropriated about the same amount of money as last year. About 40 per cent of the Army's total Research, Development, Test and Evaluation money will go for Nike-Zeus and Pershing. It is emphasized that this appropriation is for Research, Development, Test, and Evaluation only. No production—or even initial pre-production engineering steps—as urgently requested by the Army, are authorized for the next fiscal year.

In other Legislative developments relating to last year's resolutions, the House passed and sent to the Senate the Retired Pay Adjusment Bill. The Bill has been referred to a special Senate Subcommittee. The final outcome is still in doubt.

No action has been taken or is anticipated by either house this session to remove, repeal, amend or relax the discriminatory provisions of law restricting the employment of retired military personnel by the federal government. On the contrary, a bill imposing further restrictions on retired military personnel has been passed by the House.

In regard to last year's resolutions relating to nonlegislative actions, I am sorry to say that none have been attained.

Resolution No. 8, "Revitalized Army ROTC Program," has not been attained. On the contrary many colleges and universities have made, or are considering making, basic ROTC voluntary.

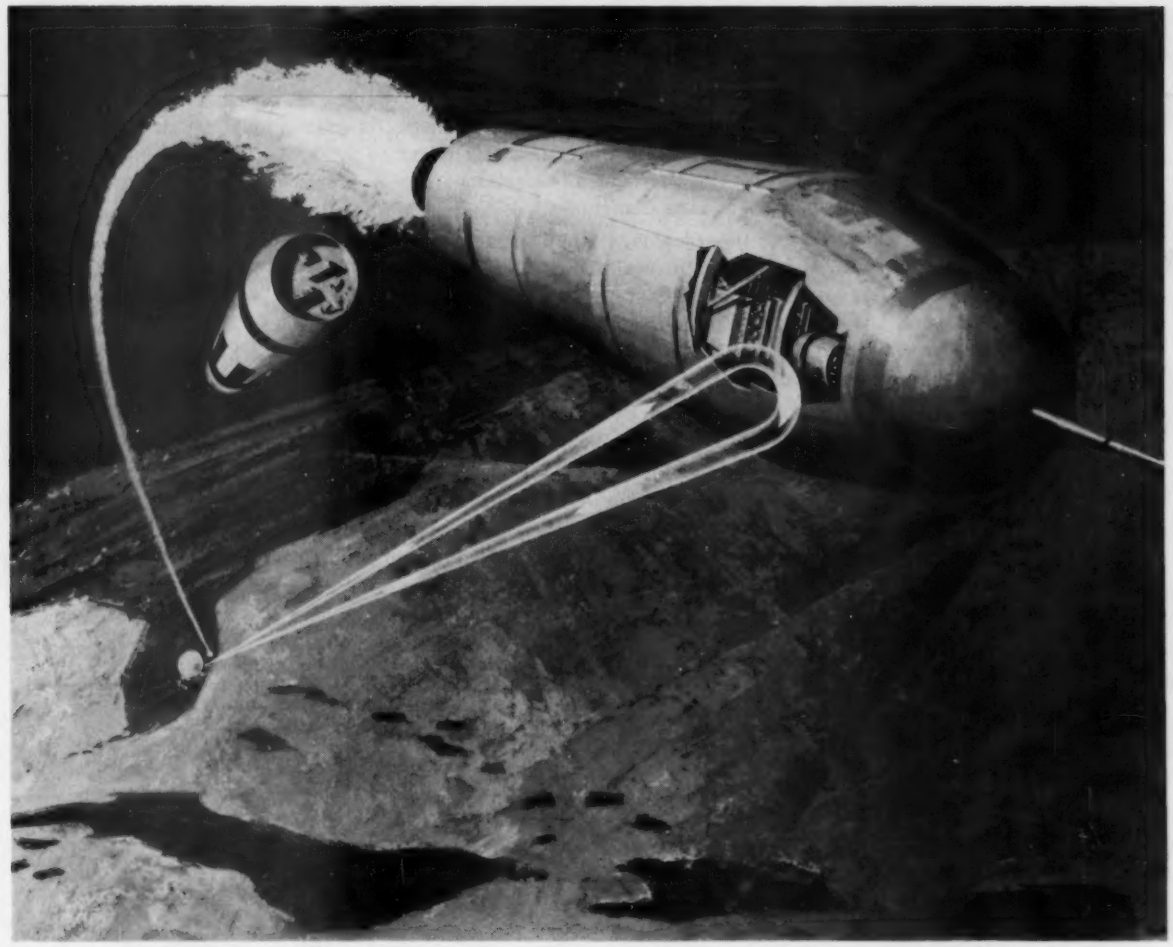
In regard to resolutions relating to the removal of weight and range limitations on Army aircraft and missiles—although no significant shifts in the Defense Department's policies have been announced, the Army continues to seek and still requires the greater flexibility in aircraft, missiles and other weapons systems vital to carrying out its combat missions.

FORWARD STRIDES IN THE REGIONAL PROGRAM

IT IS SOMEWHAT DIFFICULT to realize the tremendous strides that have been made in our Chapter and AUSA ROTC Company program during the past year. When we stop to think that our first four Chapters and first two AUSA ROTC Companies were chartered in October of 1956, we know we have come a long way.

The statistics are very short—we have 123 Chapters and 64 ROTC Companies. Beyond the statistics, however, is the very wholesome fact that the *quality* of our regional organization has improved tremendously. We now have self-starters carrying the AUSA banner out at the grass roots. I could mention some of the chapters that have provided the brighter stars in our crown but to do so would take away some of the impact of our chapter awards which will be presented later during this Annual Meeting.

What have the chapters been doing? Many of you have little conception of the programs that have been building support for the Army. AUSA Weeks, special platoons, speaking programs in cooperation with other organizations, publicity in local news media,



The Command Guidance System for the Air Force Titan, shown here as the first and second stages separate, was developed by Bell Telephone Laboratories and is manufactured by Western Electric. Flight information is analyzed by a Remington Rand-Univac computer.

Nose cone of an Air Force Thor-Able test missile, guided by "brains" developed for the Titan, being recovered from the South Atlantic.

How the Air Force puts Titan on Target!

Bell Telephone Laboratories Command Guidance System gives deadly accuracy to new ICBM

Suppose you were asked to guide a 110-ton missile into space with a controlled velocity so that its nose cone could then sail free of all control and hit a tiny preselected target area 6000 miles away.

This was the objective for Titan which was given by the Air Force to Bell Telephone engineers and scientists. The result was a new Command Guidance System which guides Titan with "pinpoint" accuracy.

For the first few hundred miles of flight, a ground control center tracks the missile and sends instructions to keep it precisely on course. Commands are also sent to cut the engine off at the moment of proper velocity.

To show how accurate this guidance must be: *at the time of cut-off, when Titan may be traveling some 24,000 feet per second, a difference of one foot per second in the speed could cause a miss of one mile.*

The system has already guided missile nose cones so accurately that they could be recovered thousands of miles away by waiting ships. And it will play a key role in forthcoming satellite and space probes.

This new guidance system is the product of our many years of communications research and experience—which also help bring you the finest telephone service in the world.

BELL TELEPHONE SYSTEM

television, information to Members of Congress—the list is endless and limited only by the imagination of those who devote their time and talent to AUSA on the local level. I am somewhat humbled by the time and the devotion that is offered freely to AUSA and the Army by the Chapters and the Companies.

Last year we passed a resolution authorizing the formation of AUSA Regions, to coincide with the six Continental Army Areas. One such Region has been formed—the Fourth Region, AUSA. The State of Texas, AUSA, has also been organized. The Fourth Region has already performed many valuable services. I would like to express my personal appreciation to General Bill Sutton, Colonel Harold Newman, and the others who have given freely of time and talent to make the Fourth Region a reality.

There has already been a meeting at Yakima, Washington, to organize a Pacific Northwest regional organization. We know, too, that the Third Army Area and Second Army Area chapters are making their plans. This is self-starting at its best.

If I have seemed to slight our AUSA ROTC Companies, it certainly is not intentional. All of us who are in touch with these important regional units are gratified at the caliber of our cadet members, their interest in national affairs, in the Army, and in the Association, and at their inventiveness and persistence in developing and carrying out AUSA programs. We are proud of our cadet members, and the Army and the country gain by the program.

ACCOMPLISHMENTS OF THE SUSTAINING MEMBERSHIP PROGRAM

MANY OF YOU are familiar with our Sustaining Membership Program, but for those of you who are not, let me state this. It was established in 1956 to improve communication between the Department of the Army and Industry, particularly with respect to the Army's future plans and programs. During the past year seven new industrial firms have joined the Sustaining Membership Program, giving us a total of 72 companies who are now members. Many of them are exhibitors at this Annual Meeting.

As part of the Sustaining Membership Program, the Association sponsors classified symposiums and briefings designed to bring together the key industrial leaders with the top officials of the Department of Army to discuss plans, problem areas, and future programs. AUSA has conducted eight of these symposiums, two of them since our last Annual Meeting.

Our Association also assisted the Department of the Army in the planning and operation of Project MAN, which was held at Fort Benning, Georgia, in May. The Association was proud to be part of this exercise and to have had another opportunity to assist the United States Army.

This year we also developed for the Department of Army a study which was conducted among our industrial members to pinpoint specific problem areas in the methods and procedures through which business is conducted with the Army.

The industrial program is completely sustained by the dues which the participating companies pay each year; the costs of the symposiums are borne by those who attend.

EXPANSION OF THE AWARDS PROGRAM

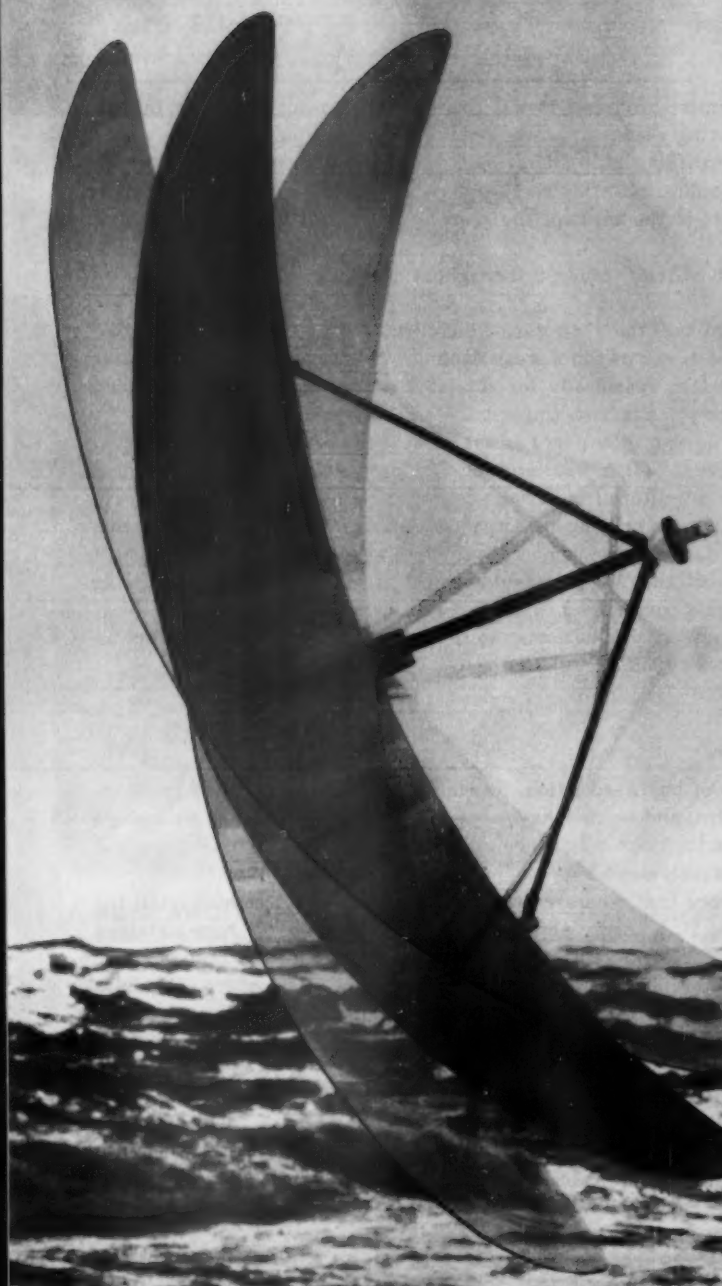
YOUR AWARDS COMMITTEE has done a lot of work since we last met. The results of some of their labors will be seen several times throughout this program.

The Awards Program is being expanded and formalized. The Best Chapter Award, which Henry Leavenworth Chapter won last year, was broken down into eight categories this year—it was just impossible to choose our best chapter among so many outstanding ones.

We now have a service school individual plaque, highly approved by the School Commandants, which can be given to individuals. National Guard Officers Candidate Schools are also in this program. The plaque can be used as a wall decoration, or as a desk ornament.

The George Catlett Marshall Medal will be given for the first time at this year's George C. Marshall Memorial Dinner—we are starting the Dinner and the award off together.

What's up...and where?



Philco airborne radar for ALRI extends the vision of SAGE

ALRI, the Airborne Long Range Input system of the U. S. Air Force, is the seaward extension of SAGE, the vast electronic network that warns of aircraft approaching the North American continent. Philco will develop, produce and modify the airborne height-finding radar as an ALRI team member under the system manager, Burroughs Corporation. Philco was selected for this vital work because of its long and extensive experience in the development and production of military airborne radar and its major contributions to radar technology. Here is further evidence of Philco's leadership in advanced electronics . . . for reconnaissance, communications, weapon systems, space exploration and data processing.

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We still make available about 235 AUSA ROTC Medals each year, plus Certificates of Appreciation, Certificates of Achievement, and two AUSA President's Medals. There are Chapter Certificates of Appreciation available for the Chapter to award.

Most of our chapters have their own program of awards, and more are joining the bandwagon, along with some of our ROTC Companies. This is an important field of Chapter activity, and helps greatly to encourage people to serve the Army and the Association.

GROWTH OF ARMY MAGAZINE

ARMY MAGAZINE made substantial progress during the year both in content and in size. Customary methods of measuring reader approval or disapproval indicate that the magazine is doing a better job of providing its readers timely and authoritative material of use to soldiers of all ranks and grades, all arms and services, and of all components. At the same time it has remained alert to the needs of the growing number of civilian members of AUSA.

ARMY supported the One Army concept throughout the year—and effectively, we believe.

Highlight of ARMY's year was the June issue which devoted itself to commemorating the tenth anniversary of the outbreak of the Korean conflict. This especially planned issue, in which every article was written specifically for the issue at the request of the editors, received more favorable comment than any single issue in ARMY's history.

The current (August) issue of 120 pages is the largest in ARMY's history and contains 79 pages of editorial material. (It is worth noting that only a few years ago a normal issue had only 40 to 50 pages of editorial material.)

I am happy to report that advertising in ARMY continues to grow. Our Association is one of the very few whose dues are the same now as they were ten years ago, while at the same time, the activities of the Association have grown substantially. Advertising revenues have helped to make this possible.

During 1959 our gross advertising revenues were in excess of $200,000, showing an increase of more than $60,000 over 1958.

HEALTHY INCREASE IN MEMBERSHIP

MEMBERSHIP IS THE LIFEBLOOD of our Association. During the past two years our membership has grown about 25 per cent, and we now have some 63,000 members. When we include an additional 7,400 subscribers to ARMY magazine, we find that our magazine is going out to more than 70,000 individuals each month.

It has been our experience that wherever we have been able to successfully tell the story of the Association of the U. S. Army and what it is trying to do, we have obtained new members. The staff has devoted much time and effort to developing the best methods of getting the AUSA story before increasing numbers of prospective members. We have used posters, fact sheets, advertising in ARMY magazine, and have even prepared suggested presentations. We are now producing, and should have ready very shortly, a thirty-minute motion picture film entitled, "No Easy Way," which will present the AUSA story.

Much of our recent progress can be attributed to the fine work being done by our Chapters, which have brought in many new members.

There is no more effective way of spreading the word about the Association than to have *you* talk to your friends about the Association and to urge them to join.

COOPERATION WITH OTHER ORGANIZATIONS

IN THE ACCOMPLISHMENT of our objectives, AUSA has sought greater cooperation and communication with other organizations who support our National Defense. Within the Army family, we have developed a splendid and close spirit of cooperation with several of the other associations. The Army Aviation Association of America, which has supported vigor-

AIRESEARCH designs, develops, manufactures and tests a *complete* line of cryogenic valves and controls in individual packages or complete systems for missiles, space vehicles and related ground support equipment.

The superior reliability of AiResearch cryogenic systems and components is backed up by more than 20 years of experience as the largest producer of valves and controls in the aircraft and missile industries. This capability includes liquid and gaseous fuel and oxidizer components and systems operating at temperatures ranging from −420°F. to more than 2000°F.

AiResearch leadership in all of these fields is supported by the most complete cryogenic testing and manufacturing facilities available. All AiResearch missile components are designed and qualified to meet or exceed requirements of military specifications.

Inquiries should be directed to Control Systems, AiResearch Phoenix Division.

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2. *Airborne check valves.*
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4. *Airborne pressure relief regulator and vent valves for propellant tank.*
5. *Airborne turbo-pump speed sensors.*
6. *Airborne liquid propellant shutoff valves.*
7. *Ground support pressure regulator and shutoff valves.*

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ously the objectives of the AUSA, decided this year to hold its Annual Meeting in conjunction with ours. The Airborne Association, the Military Police Association, and the Armor Association have all worked with us and support our principal objectives in a most gratifying manner.

It is our hope that we can continue to broaden the mutual cooperation between our respective organizations in the future toward the more rapid accomplishment of our common objectives.

SUBSTANTIAL FINANCIAL PROGRESS

DURING THE CALENDAR YEAR 1959, we improved our financial status through better budgeting and financial management. This has enabled us to increase the national awards program; to increase the number of President's letters from the originally planned three a year to the present four and to the six a year planned for the immediate future, and to refurbish, repair, and air condition our national headquarters building. We have made a small addition to our Army Memorial Building Fund, and enlarged slightly the full-time staff of the Association. Our office machine and equipment program has also been brought much closer to completion.

We continue to purchase and ship books of all U. S. publishers for our members upon request, although we no longer advertise titles. We carry this on as a service for our members, just as we continue to review books in ARMY magazine. This service to our members costs us less than $2,000 a year; we feel that this is a good investment as one of our contributions to the advancement of military thought.

INFORMATION AND RESEARCH SERVICES

LAST DECEMBER your Association was able to take a step that had been delayed for several years because of our financial situation. We had long wanted to expand our Information and Research Services, which had been handled by staff members in addition to their other duties. This was most unsatisfactory, so we hired a full-time staff member to perform this duty. Thus far he runs a one-man department. I am sure that the chapters, particularly, have noted with gratification that timely information on topics of the day has been forthcoming promptly and accurately, and in a form that can be used.

I cite this primarily because it is an indication that your Association is expanding its services and usefulness as it grows in resources. Your support is the basis of the Association's growth.

IMPORTANCE OF ANNUAL MEETING

I AM SURE all of you in attendance would agree that the Annual Meeting of our Association is a most successful affair. It has become one of the major military association meetings in our country and does a great deal to spotlight to the public the important objectives which our Association is seeking to carry out.

We are particularly pleased at the numbers and stature of the members of the press who are covering our Meeting and are particularly gratified at the large attendance of our membership. Certainly, our Annual Meeting exemplifies the spirit of the "One Army" concept such as no other affair in the country.

IT HAS BEEN my pleasant task to report to you some very gratifying progress in the affairs of our Association, and some disappointments. On the whole, we have done well since we last met.

I would be remiss indeed if I did not express to you my very real gratitude for giving me the opportunity to serve as your President. It has been one of the most satisfying experiences of my life.

WHO TURBOCHARGED THE DIESEL FOR THE CONSTRUCTION INDUSTRY?

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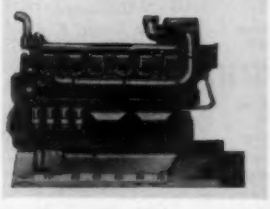
It's a long way in time and design from the first four cylinder **diesel** engine of 89 HP manufactured by Caterpillar 29 years ago as compared to today's big but compact Turbocharged, Aftercooled V-12 developing 730 certified brake horsepower. But these two engines have one thing in common – they are the result of searching effort to produce the highest quality diesel engine available.

The acceptance of Caterpillar Engines can be seen in every type of application – protected or in the elements, on land and sea. A major shrimp boat manufacturer as an example powers two-thirds of all the vessels he produces with Caterpillar Engines.

Because Caterpillar has constantly strived to improve its products, a good many "firsts" in diesel engine development have benefited every kind of engine user. In addition to being the first to turbocharge and aftercool a diesel for the



engine power

BY CATERPILLAR

construction industry, such advances as capsule-type fuel injection valves that can be replaced as easily as a spark plug for a cost of less than ten dollars reveal Caterpillar's direction: the building of high-performance, economical diesel engines.

Today, Caterpillar is producing compact, lightweight, high-output engines from ultra-modern facilities devoted to research, design and manufacturing. Cat Diesels are available up to 730 HP and electric set ratings of 400 KW. For profitable use in construction, mining, railroad, petroleum, agricultural, marine, logging and hospital standby electric set applications, choose Caterpillar Diesels.

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ASSOCIATION OF THE U. S. ARMY

AIMS AND OBJECTIVES

THE ASSOCIATION OF THE U. S. ARMY shall be an organization wherein all who are in accord with its objectives may join in the exchange of ideas and information on military matters, and in fostering, supporting, and advocating the legitimate and proper role of the Army of the United States and of all its branches and components in providing for and assuring the Nation's military security.

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REPORT ON AUSA BUSINESS MEETING

During the business portion of the 1960 Annual Meeting, the following items are of interest (in addition to those contained in the September issue of the President's letter):

The President paid tribute to the services of Colonel Willard F. Rockwell, retiring Chairman of the Council of Trustees; the membership gave Colonel Rockwell a standing ovation.

The President introduced Mr. Robert L. Biggers, the new chairman of the Council of Trustees, who assumed the duties of his office on this date.

The President reported on the status of the Army Memorial, substantially as contained in the August issue of ARMY. The President asked that when further announcements were made the assembled delegates would express their approval by making contributions, and that they would influence the members of their chapters to do the same.

The President called upon Colonel William H. Baumer, Chairman of the 1960 Resolutions Committee, who introduced the members of his Committee, read the Preamble to the Resolutions, and the sixteen resolutions recommended by his committee. All were adopted by the Delegates. The President thanked Colonel Baumer and the members of his Committee for their services to the Association.

Colonel Harold H. Newman, Alamo Chapter, offered a resolution expressing gratitude to Major General Anthony J. Drexel Biddle for his services as President of the Association for two terms. Mr. Ashworth, seconding the resolution, recommended a standing ovation, which was given.

General Lemnitzer presents Lieutenant Benjamin R. Schlapak the Dr. Ralph Mershon award to the most outstanding military graduate of the Senior Division of the ROTC who accepts a commission in the Regular Army. Mrs. Schlapak looks on.

TODAY'S ARMY MUST BE...

STRONG...

. . . ONE FOR ALL

MODERN...

MOBILE...

What AUSA Is Fighting For

STRONG . . . Today's Army must be strong and unified to meet any threat to the security and peace of our Nation. The Active Army, Army Reserve and National Guard must work together as one team to insure that the United States is prepared.

MODERN . . . Our Army must have the very latest in equipment which our country can provide and to an extent which will assure our Nation a fighting force, properly armed and equipped for any type of warfare.

MOBILE . . . A tough and modern Army is only as effective as its ability to get to the scene of conflict without delay. That's why the Army must be provided with sufficient aircraft to carry out its vital mission.

These are some of the objectives which the **ASSOCIATION OF THE UNITED STATES ARMY** is fighting for. YOU can help support these vital aims and objectives by joining AUSA NOW and adding your voice. Write today for further details and membership application blank. Your membership includes a year's subscription to **ARMY** magazine.

ONE VOICE for the ONE ARMY

ASSOCIATION OF THE UNITED STATES ARMY

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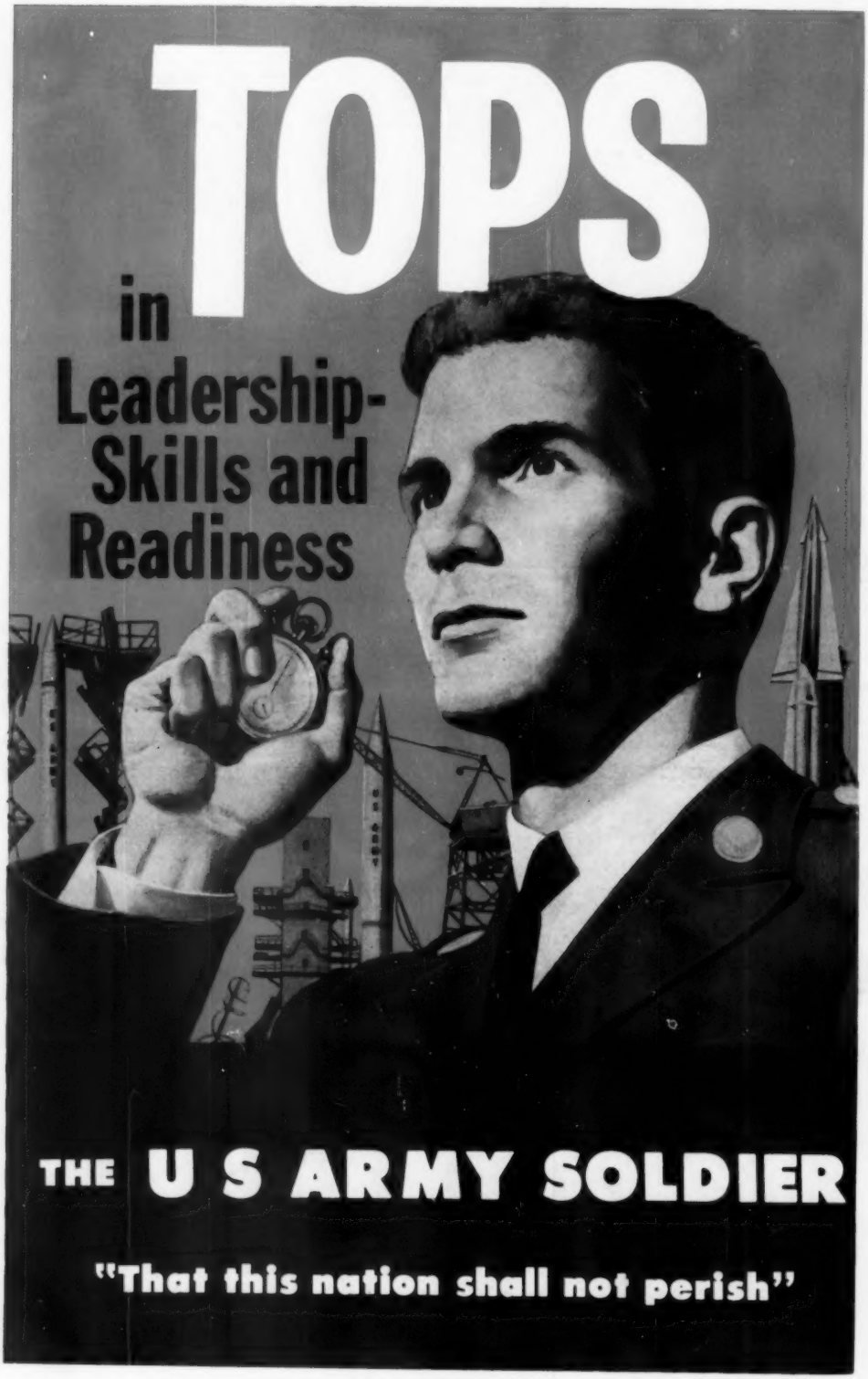
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in
Leadership-
Skills and
Readiness
THE U S ARMY SOLDIER
"That this nation shall not perish"